

165	170	175
Gly Thr His Lys Phe Thr Phe Tyr Val	Gly Asn Arg Cys Glu	Ile Glu
180	185	190
Val Ile Ala Phe Cys Ser Tyr Leu Arg Trp Ala Val	Tyr Gln Tyr His	
195	200	205
Ser Ile Pro Phe Glu Val Ile Trp Ser Val Thr Ala Val	Leu Ile Ile	
210	215	220
Ile Leu Cys Ser Trp Tyr Leu Ile Lys Lys Tyr	Ile Ser Lys Ile Arg	
225	230	235
Asn Asp Lys Lys His Leu Ala Asn Asp Arg Asp Arg	Glu Arg Lys Val	
245	250	255
Arg Ile Gln Leu Glu Lys Asp Gln Lys Arg Leu Glu Val	Lys Gln Lys	
260	265	270
Glu Tyr Glu Lys Arg Ile Lys Asp Phe Ser Ala Lys Gly	Glu Glu Tyr	
275	280	285
Glu Glu Arg Lys Ser Met Glu Lys Ile Leu Lys Glu Tyr	Glu Asn	
290	295	300
Gln Ile Gln Lys Leu Lys Glu Leu Arg Glu Ser Gly Lys Glu Pro	Leu	
305	310	315
Leu Tyr Arg Leu Ser Pro Lys Val Thr Phe Asp Ser Tyr Ala	Lys Val	
325	330	335
Leu Ile Cys Ser Asp Gln Thr Ile Ser Leu Thr Ser Gln Ala	Cys Gln	
340	345	350
Leu Leu Asp Ala Phe Leu Asn Ala Ser Glu Tyr Ile Leu Thr	Tyr Glu	
355	360	365
Glu Leu Leu Arg Tyr Leu Trp Glu Asp Gly Thr Gly Asp Met	Ile Arg	
370	375	380
Leu Arg Val Ala Ile Ser Arg Leu Arg Val Ala Leu Ser Ile	Asp Pro	
385	390	395
Glu Asn Phe Tyr Phe Ser Glu Gly Tyr		400
	405	

&lt;210&gt; 6359

&lt;211&gt; 376

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6359

Ser Asn Lys Val Met Lys Asn Ile Ser Leu Ile Leu Leu	Phe Ile		
1	5	10	15
Leu Phe Ser Cys Lys Ser Thr Gly Asp Lys Thr Asp Cys	Glu Val Leu		
20	25	30	
His Val Asp Leu Val Glu Arg Pro Val Pro Thr Glu Glu	Leu Phe Ser		
35	40	45	
Lys Ile Ser Val Ile Pro Leu Glu Thr Asn Asp Ser Ser	Phe Leu Val		
50	55	60	
Gly Pro Val Lys Val Ile Lys Asp Asn Arg Tyr Tyr	Ile Val Asp		
65	70	75	80
Glu Gly Val Pro Ala Val Phe Ser Phe Asp Glu Glu	Gly His Leu Leu		
85	90	95	
His Lys Ile Gly Lys Lys Gly Gln Gly Pro Gly Glu	Tyr Arg Glu Ile		
100	105	110	
Tyr Asp Ala Val Ile Lys Glu Lys Glu Asn Ala Val	Tyr Met Leu Ser		
115	120	125	
Pro Phe Gly Ser Leu Tyr Val Tyr Ser Leu Asp Gly Lys	Phe Ile Lys		
130	135	140	
Glu Ile Lys Leu Pro Thr Arg Ala Asn Tyr Gln Leu Ile	Glu Glu Leu		
145	150	155	160
Glu Ser Lys Tyr Phe Val Thr Trp Thr Leu Pro Ala Ser	Glu Asn Asp		

165	170	175
Asn Cys Ile Ser Val Ile Ser Lys Glu	Ser Ser Lys Asn Val	Lys Glu
180	185	190
Phe Trp His Val Pro Pro Val Leu Thr Thr Leu Asn Ser Lys Pro Phe		
195	200	205
Tyr Asn Tyr Glu His Lys Ile Tyr Phe Ser Asn Pro Tyr Gln Asn Glu		
210	215	220
Val Tyr Glu Val Arg Thr Asp Ser Leu Arg Val Ala Tyr Arg Trp Asp		
225	230	235
Phe Gly Lys Asp Asn Leu Asp Leu Lys Glu Tyr Gly Phe Thr Leu Leu		
245	250	255
Glu Asp Lys Lys Val Glu Glu Tyr Lys Leu Met Leu Gln Tyr Leu Arg		
260	265	270
Asp Ser Thr Val Pro Tyr Phe Leu Cys Asp Gln Tyr Gln Asn Asp Lys		
275	280	285
Phe Tyr Tyr Ile Met Leu Val Phe Gly Leu Lys His Ser Lys Asn Leu		
290	295	300
Phe Tyr Arg Lys Glu Asp Ser Lys Ser Phe Phe Glu Lys Thr Thr		
305	310	315
Glu Gly Ile His Phe Glu Pro Leu Ala Phe Asn Glu Asp Phe Leu Thr		
325	330	335
Cys Ile Val Phe Asn Glu Asp Phe Pro Asn Tyr Glu Lys Val Leu Pro		
340	345	350
Pro Glu Glu Tyr Lys Lys Leu Glu Glu Arg Leu Glu Asp Asp Asn Pro		
355	360	365
Cys Leu Ile Lys Phe Tyr Phe Lys		
370	375	

&lt;210&gt; 6360

&lt;211&gt; 65

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6360

Pro Ala Lys Val Ala Thr Thr Ala Thr Ile Arg Ala Ala Lys Ile Phe			
1	5	10	15
Leu Leu Ile Ile Tyr Phe Tyr Asp Val Asn Tyr Phe Ser Pro Met Ser			
20	25	30	
Leu Phe Arg Gly Ala Thr Ser Ser Val Lys Lys Val Asn Ala Thr Phe			
35	40	45	
Thr His Ser Asn Tyr Phe Phe Ala Ile Phe Val Pro Gly Asn Leu Leu			
50	55	60	

Phe

65

&lt;210&gt; 6361

&lt;211&gt; 154

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6361

Val Met Lys Val Tyr Leu Gly Leu Gly Thr Asn Leu Gly Asp Lys Glu			
1	5	10	15
Leu Asn Leu Arg Val Ala Leu Gln Lys Ile Glu Glu Arg Ile Gly Lys			
20	25	30	
Ile Ile Ser Leu Ser Ala Phe Tyr Ala Thr Ala Pro Trp Gly Phe Gln			
35	40	45	
Ser Glu Asn Asn Phe Leu Asn Ala Ala Val Gly Val Glu Thr Val Leu			
50	55	60	

Ser Pro Val Gly Ile Leu Glu Ser Thr Gln Arg Ile Glu Gln Glu Ile  
 65 70 75 80  
 Gly Arg Leu His Lys Ser Arg Asp Gly Val Tyr Ser Asp Arg Leu Ile  
 85 90 95  
 Asp Ile Asp Leu Leu Tyr Gly Asp Lys Ile Leu Gln Asp Glu Arg  
 100 105 110  
 Leu Ile Val Pro His Pro Leu Met Thr Asp Arg Lys Phe Val Leu Glu  
 115 120 125  
 Pro Leu Ala Glu Ile Ala Gln Asp Val Val His Pro Val Phe His Lys  
 130 135 140  
 Thr Ile Lys Glu Leu Phe Leu Ala Leu Ser  
 145 150

<210> 6362

<211> 311

<212> PRT

<213> B.fragilis

<400> 6362

Arg Phe Gly Val His Leu Asn Met Gln Ile Lys Pro Met Asn Lys Leu  
 1 5 10 15  
 Thr Ile Asn Ala Cys Pro Leu Cys Gly Gly Ala His Leu Lys Arg Ala  
 20 25 30  
 Met Thr Cys Thr Asp Phe Tyr Ala Ser Gly Glu Gln Phe Asp Leu Tyr  
 35 40 45  
 Thr Cys Glu Asp Cys Gly Phe Thr Phe Thr Gln Gly Val Pro Val Glu  
 50 55 60  
 Ala Glu Ile Gly Arg Tyr Tyr Glu Thr Pro Asp Tyr Ile Ser His Ser  
 65 70 75 80  
 Asp Thr Lys Lys Gly Ala Met Asn Ala Ile Tyr His His Val Arg Gln  
 85 90 95  
 Tyr Met Leu Gly Arg Lys Ala Arg Leu Val Met Lys Glu Ser His Arg  
 100 105 110  
 Lys Thr Gly Arg Ile Leu Asp Ile Gly Thr Gly Thr Tyr Phe Ala  
 115 120 125  
 His Thr Met Gln Asn Arg Gly Trp Glu Val Glu Ala Val Glu Lys Ser  
 130 135 140  
 Gly Gln Ala Arg Asn Phe Ala Arg Glu His Phe Gly Leu Asn Val Arg  
 145 150 155 160  
 Pro Glu Ala Ala Leu Lys Glu Leu Val Pro Gly Thr Phe Asp Val Ile  
 165 170 175  
 Thr Leu Trp His Val Met Glu His Leu Glu His Leu Asp Glu Thr Trp  
 180 185 190  
 Glu Leu Leu Arg Glu Leu Leu Thr Glu Lys Gly Val Leu Ile Val Ala  
 195 200 205  
 Val Pro Asn Cys Ser Ser Tyr Asp Ala Met Lys Tyr Gly Lys Tyr Trp  
 210 215 220  
 Ala Ala Tyr Asp Val Pro Arg His Leu Trp His Phe Thr Pro Ala Thr  
 225 230 235 240  
 Ile Gln Gln Phe Gly Ser Lys His Gly Phe Ile Leu Ala Ala Arg His  
 245 250 255  
 Pro Met Pro Phe Asp Ala Phe Tyr Val Ser Met Leu Thr Glu Lys His  
 260 265 270  
 Lys Gly Ser Ala Tyr Ser Phe Val Lys Gly Met Trp Thr Gly Thr Val  
 275 280 285  
 Ala Trp Leu Ser Ala Gln Ala Lys Lys Glu Arg Ser Ser Ser Met Ile  
 290 295 300  
 Tyr Val Phe Arg Lys Lys Arg  
 305 310

<210> 6363  
<211> 77  
<212> PRT  
<213> B.fragilis

<400> 6363  
Trp Val Met Ser Val Phe Cys Leu Gln Glu Thr Cys Phe Leu Gln Thr  
1 5 10 15  
Lys Asp Tyr Met Asp Asn Ser Ser Lys Gln Asn Ile His Arg Glu Lys  
20 25 30  
His Leu Val Phe Ser Phe Thr His Arg Tyr Ile Leu Asn Ile Thr Phe  
35 40 45  
Gly Arg His Pro Leu Gly Ser Thr Val Ile Pro Asp Thr Leu Lys Ala  
50 55 60  
Tyr Thr Asp Ile Met Ser Ala Ile Gln Thr Arg His Ile  
65 70 75

<210> 6364  
<211> 110  
<212> PRT  
<213> B.fragilis

<400> 6364  
Asn Lys Asn Thr Met Tyr Thr Ile Gln Ala Asn Pro Ser Gly Thr Arg  
1 5 10 15  
Ser Met Glu Ile Ser Glu Glu Asn Leu Val Thr Ile Glu Lys Tyr Ser  
20 25 30  
Leu Phe Gln His Leu Ile Asp Ser Asn Gly Ile Val Asp Glu Ala Val  
35 40 45  
Leu Glu Lys Leu Lys Leu Asn Ile Arg Ser Leu Ile Ala Ser Gln Glu  
50 55 60  
Glu Asp Ser Lys Asp Leu Leu Asp Leu Cys Ile Asp Val Ile Tyr His  
65 70 75 80  
Asn Asn Met Lys Ala Phe Gly Leu Gln Gln Leu Ile Lys Leu Tyr Leu  
85 90 95  
Thr Trp Leu Ser Lys Gln Glu Ala Glu Glu Glu Glu Ala  
100 105 110

<210> 6365  
<211> 150  
<212> PRT  
<213> B.fragilis

<400> 6365  
Ser Phe Val Ala Tyr Tyr Met Asn Gln Phe Tyr Ile Ile Met Lys Ala  
1 5 10 15  
Lys Met Phe Phe Leu Val Val Ala Met Leu Leu Cys Arg Gly Val Ala  
20 25 30  
Tyr Ala Tyr Ser Pro Ser Ala Asn Asp Pro Ile Ser Lys Ser Gly Gly  
35 40 45  
Ile Glu Gln Asp Ile Pro Pro Pro His Ile Pro Pro Pro Pro Leu Pro  
50 55 60  
Ser Gln Ile Phe Leu His Val Gly Glu Ile Ser Glu Thr Pro Tyr Pro  
65 70 75 80  
Met Ile Gly Ala Met Val Trp Glu Cys Asp Asn Pro Pro Val Gly Ile  
85 90 95  
Glu Gln Glu Glu Ser Tyr Ile Phe Gly Thr Met Ile Ile Leu Arg Ile  
100 105 110

Lys Gly Val Ala Ala Gly Arg Tyr Gln Val Asp Met Lys Trp Tyr Asn  
     115                     120                     125  
 Pro Leu Asn Pro Gly Gln Pro Pro Leu Gly Arg Gln Thr Ile Glu Val  
     130                     135                     140  
 Ile Val Gln Pro Trp Pro  
     145                     150

&lt;210&gt; 6366

&lt;211&gt; 149

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6366

Gly Val Ala Leu Pro Cys Gly Trp Leu His Pro Ile Ser Val Pro Ser  
     1                      5                     10                     15  
 Gln Thr Thr Gly Gln Pro Asp Arg Gln Ser Thr Asp Leu Phe Asn Tyr  
     20                     25                     30  
 Phe Lys Phe Ile Thr Gln Asn Gln Arg Lys Ser Leu Ser Leu Pro Lys  
     35                     40                     45  
 Ile Phe Ser Ile Tyr Ser His Lys Thr Phe Gly Ile Met Ala Lys Arg  
     50                     55                     60  
 Arg Glu Leu Lys Lys Asn Val Asn Tyr Ile Ala Gly Glu Leu Phe Ser  
     65                     70                     75                     80  
 Glu Cys Leu Ile Asn Ser Lys Phe Ile Pro Gly Thr Asp Lys Lys Lys  
     85                     90                     95  
 Ala Asp Glu Leu Met Val Glu Ile Met Lys Met Gln Asp Glu Phe Ile  
     100                    105                     110  
 Ser Arg Ile Ser His Thr Glu Pro Gly Asn Val Lys Gly Phe Tyr Lys  
     115                    120                     125  
 Lys Phe Arg Ser Asp Phe Asn Ala Lys Val Asn Glu Ile Ile Asp Ala  
     130                    135                     140  
 Ile Ala Lys Leu Asn  
     145

&lt;210&gt; 6367

&lt;211&gt; 746

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6367

Ile Cys Ser Asn Ile His Asn Asn Thr Ile Met Lys Lys His Leu Ser  
     1                     5                     10                     15  
 Leu Ile Leu Val Leu Leu Pro Val Leu Phe Leu Ala Leu Pro Ala Leu  
     20                     25                     30  
 Ala Gln Glu Arg Lys Lys Val Gly Val Val Leu Ser Gly Gly Gly Ala  
     35                     40                     45  
 Lys Gly Val Ala His Ile Gln Ala Leu Lys Val Ile Glu Glu Ala Gly  
     50                     55                     60  
 Ile Pro Ile Asp Tyr Ile Val Gly Thr Ser Met Gly Ser Ile Ile Gly  
     65                     70                     75                     80  
 Gly Leu Tyr Ser Ile Gly Tyr Thr Pro Gln Gln Leu Asp Ser Met Val  
     85                     90                     95  
 Arg Lys Gln Asp Trp Met Phe Leu Leu Ser Asp Arg Val Lys Arg Ser  
     100                    105                     110  
 Ala Met Ser Leu Asn Glu Arg Glu Lys Ser Glu Lys Tyr Val Phe Ser  
     115                    120                     125  
 Phe Pro Phe Thr Lys Ser Pro Lys Asp Ala Val Ser Gly Gly Ile Ile  
     130                    135                     140  
 Lys Gly Gln Asn Leu Ala Asn Leu Phe Thr Glu Leu Thr Val Gly Tyr

145	150	155	160												
His	Asp	Ser	Val	Asp	Phe	Asn	Lys	Leu	Pro	Ile	Pro	Phe	Ala	Cys	Val
165	170	175													
Ser	Gln	Asn	Ile	Val	Asn	Gly	Glu	Gln	Ile	Val	Phe	His	Asn	Gly	Ile
180	185	190													
Leu	Ala	Thr	Ala	Met	Arg	Ala	Ser	Met	Ala	Ile	Pro	Gly	Val	Phe	Thr
195	200	205													
Pro	Val	Arg	Lys	Asp	Ser	Met	Ile	Leu	Ile	Asp	Gly	Gly	Met	Ile	Asn
210	215	220													
Asn	Tyr	Pro	Val	Asp	Val	Ala	Arg	Ser	Met	Gly	Ala	Asp	Ile	Ile	Ile
225	230	235	240												
Gly	Val	Asp	Val	Gln	Asn	Asn	Leu	Lys	Gly	Ile	Asp	Lys	Leu	Asn	Ser
245	250	255													
Ala	Pro	Asp	Ile	Leu	Ser	Gln	Ile	Ile	Asp	Leu	Thr	Thr	Lys	Asn	Asn
260	265	270													
His	Gln	Ser	Asn	Val	Gly	Leu	Thr	Asp	Thr	Tyr	Ile	Lys	Val	Asn	Val
275	280	285													
Glu	Gly	Tyr	Ser	Ser	Ala	Ser	Phe	Thr	Pro	Ala	Ala	Ile	Asp	Ser	Leu
290	295	300													
Met	His	Arg	Gly	Glu	Val	Ala	Ala	Arg	Lys	Gln	Trp	Ala	Ser	Leu	Leu
305	310	315	320												
Ala	Leu	Lys	Lys	Ile	Gly	Ile	Ala	Asp	Thr	Phe	Val	Pro	Gln	Ser	
325	330	335													
His	Gly	Pro	Tyr	Thr	Met	Phe	Ser	Lys	Asp	Arg	Thr	Leu	His	Val	Lys
340	345	350													
Glu	Ile	Thr	Phe	Ser	Asp	Val	Glu	Glu	Asn	Asp	Lys	Lys	Trp	Leu	Met
355	360	365													
Lys	Lys	Cys	Lys	Leu	Gln	Glu	Asn	Ser	Arg	Ile	Ser	Met	Arg	Gln	Ile
370	375	380													
Glu	Gln	Ala	Leu	Phe	Ile	Leu	Arg	Gly	Asn	Gln	Ser	Tyr	Ser	Asn	Ala
385	390	395	400												
Ser	Tyr	Thr	Leu	Thr	Asp	Thr	Pro	Glu	Gly	Tyr	Lys	Leu	Asn	Phe	Leu
405	410	415													
Leu	Glu	Lys	Lys	Tyr	Glu	Lys	Thr	Ile	Asn	Val	Gly	Ile	Arg	Phe	Asp
420	425	430													
Ser	Glu	Glu	Ile	Ala	Ser	Leu	Leu	Ile	Asn	Ala	Thr	Ala	Gln	Leu	Lys
435	440	445													
Thr	His	Ile	Pro	Ser	Lys	Val	Ser	Val	Thr	Gly	Arg	Leu	Gly	Lys	Arg
450	455	460													
Tyr	Met	Ala	Arg	Val	Asp	Tyr	Thr	Leu	Glu	Pro	Met	Gln	Gln	Arg	Asn
465	470	475	480												
Val	Asn	Phe	Ser	Tyr	Met	Phe	Gln	Tyr	Asn	Asp	Ile	Asn	Ile	Tyr	Asp
485	490	495													
His	Gly	Asp	Arg	Ala	Tyr	Asn	Thr	Thr	Tyr	Lys	Tyr	His	Ser	Gly	Glu
500	505	510													
Phe	Gly	Phe	Ser	Asp	Val	Trp	Tyr	Lys	Asn	Phe	Arg	Phe	Gly	Phe	Gly
515	520	525													
Ala	Arg	Ile	Glu	Tyr	Phe	Lys	Tyr	Lys	Asp	Phe	Leu	Phe	Lys	Lys	Pro
530	535	540													
Glu	Phe	Thr	Met	Asn	Val	Asn	Ser	Glu	Tyr	Phe	Ile	Ser	Tyr	Phe	Ala
545	550	555	560												
Gln	Leu	Arg	Tyr	Asn	Thr	Phe	Asp	Lys	Gly	Tyr	Phe	Pro	Ser	Lys	Gly
565	570	575													
Ser	Asn	Phe	Ser	Gly	Ala	Tyr	Ser	Leu	Tyr	Thr	Asp	Asn	Phe	Ala	Arg
580	585	590													
Tyr	Asn	Gly	His	Ala	Pro	Phe	Ser	Ala	Leu	Ser	Ala	Ser	Trp	Glu	Ser
595	600	605													
Val	Phe	Ser	Ile	Ser	Asn	Arg	Leu	Thr	Leu	Ile	Pro	Ala	Leu	Tyr	Gly
610	615	620													

Arg Val Leu Ile Gly Gln Glu Ile Pro Tyr Ala Tyr Glu Asn Ala Leu  
 625 630 635 640  
 Gly Gly Asp Val Phe Gly Arg Tyr Leu Pro Gln Gln Leu Pro Phe Ala  
 645 650 655  
 Gly Ile Tyr Asn Ile Glu Leu Thr His Asn Ser Val Ala Val Ala Ser  
 660 665 670  
 Leu Lys Leu Arg Gln Arg Met Gly Ser Lys His Tyr Ile Thr Leu Ala  
 675 680 685  
 Gly Asn Phe Ala Leu Ser Asp Asp Asn Phe Phe Lys Ile Leu Lys Gly  
 690 695 700  
 Asn Arg Ile Tyr Gly Cys Ser Ile Gly Tyr Gly Leu Asp Ser Met Phe  
 705 710 715 720  
 Gly Pro Leu Glu Ala Ser Leu Gly Tyr Ser Asn Gln Ser Lys Asp Val  
 725 730 735  
 Gly Phe Tyr Val Asn Leu Gly Phe Ser Phe  
 740 745

&lt;210&gt; 6368

&lt;211&gt; 1023

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

<400> 6368  
 Leu Pro Glu Lys Ser Ile Gly Ser Arg Tyr Pro Gln Ile Glu Asn Ala  
 1 5 10 15  
 Val Tyr Arg Ile Asn Gly Gln Leu Ala Thr Ser Ser Ala Asn Asp Leu  
 20 25 30  
 Ser Ala Ile Ala Gly Phe Ser Phe Ile Ser Ser Thr Phe Ala Pro Asp  
 35 40 45  
 Asn His Ser Thr Glu His Met Lys Lys Leu Cys Ile Phe Leu Leu Leu  
 50 55 60  
 Leu Phe Ala Ala Thr Gly Ile Leu Phe Ala Gln Glu Ile Glu Lys Ser  
 65 70 75 80  
 Val Lys Glu Arg Leu Ser Asn Tyr Phe Glu Thr Tyr Thr Pro Ala Ser  
 85 90 95  
 Ala Asn Thr Gly Ser Cys Lys Leu Lys Ser Val Asp Ile Asp Phe Glu  
 100 105 110  
 Gly Arg Lys Leu Ser Ile Tyr Ala Ser Glu Ser Phe Ala Tyr Gln Pro  
 115 120 125  
 Phe Val Pro Glu Thr Val Asp Glu Ile Tyr His Gln Ile Glu Glu Leu  
 130 135 140  
 Leu Pro Gly Pro Val Arg Phe Phe Arg Thr Thr Ile Tyr Ala Asn Asn  
 145 150 155 160  
 Gln Pro Ile Glu Glu Leu Ile Pro Asn Phe Phe Arg Gly Lys Lys Lys  
 165 170 175  
 Lys Asp Lys Ser Arg Leu Ser Asn Ala Glu Tyr Lys Gly Ala Pro Trp  
 180 185 190  
 Val Ile Asn Thr Ser Arg Pro Tyr Glu Ile Thr Lys Gly Leu Gln Asn  
 195 200 205  
 Arg His Ile Ser Leu Trp Gln Ser His Gly Lys Tyr Tyr Lys Asn Asp  
 210 215 220  
 Lys Gly Glu Trp Gly Trp Gln Arg Pro Arg Leu Phe Cys Thr Thr Glu  
 225 230 235 240  
 Asp Leu Phe Thr Gln Ser Phe Ile Leu Pro Tyr Val Ile Pro Met Leu  
 245 250 255  
 Glu Asn Ala Gly Ala Asn Val Tyr Thr Pro Arg Glu Arg Asp Thr Gln  
 260 265 270  
 Lys Asn Glu Val Ile Val Asp Asn Asp Thr Arg Asn Gly Ser Ile Tyr  
 275 280 285

Leu Glu Met Lys Ser Arg Lys Ala Arg Trp Glu Lys Thr Asp Gly Tyr  
 290 295 300  
 Gly Phe Ala Gln Arg Lys Pro Val Tyr Glu Asp Gly Glu Asn Pro Phe  
 305 310 315 320  
 Leu Thr Gly Ser Ala Arg Phe Thr Arg Thr Glu Lys Lys Lys Asn Lys  
 325 330 335  
 Ala Phe Ala Glu Trp Ile Pro Thr Ile Pro Glu Thr Gly Ser Tyr Ala  
 340 345 350  
 Val Tyr Val Ser Tyr Gln Thr Leu Pro Asn Ser Val Ser Asp Ala Lys  
 355 360 365  
 Tyr Leu Val Phe His Lys Gly Gly Val Thr Glu Phe Lys Val Asn Gln  
 370 375 380  
 Arg Ile Gly Gly Thr Trp Val Tyr Leu Gly Thr Phe Glu Phe Asp  
 385 390 395 400  
 Lys Gly Ser Asn Asp Tyr Gly Met Val Val Leu Ser Asn Glu Ser Ser  
 405 410 415  
 Glu Asn Gly Val Ile Cys Ala Asp Ala Val Arg Phe Gly Gly Met  
 420 425 430  
 Gly Asn Ile Ser Arg Gly Thr Val Ser Gly Leu Pro Arg Tyr Leu Glu  
 435 440 445  
 Gly Ala Arg Tyr Ser Ala Gln Trp Ala Gly Met Pro Tyr Asp Val Tyr  
 450 455 460  
 Gly Gly Lys Gln Gly Thr Asn Asp Tyr Ala Asp Asp Ile Asn Ala Arg  
 465 470 475 480  
 Ser Asn Thr Ile Asn Tyr Leu Ser Gly Gly Ser Val Phe Asn Pro Gly  
 485 490 495  
 Gln Lys Gly Leu Gly Val Pro Phe Glu Met Asn Val Ala Leu His Ser  
 500 505 510  
 Asp Ala Gly Tyr Ser Lys Thr Asn Asp Ile Val Gly Ser Leu Ser Ile  
 515 520 525  
 Tyr Thr Thr Asp Phe Asn Asn Gly Leu Leu Asn Ser Gly Asn Ser Arg  
 530 535 540  
 Tyr Ala Ser Arg Asp Leu Ala Asp Leu Leu Thr Gln Ile Gln Lys  
 545 550 555 560  
 Asp Ile Arg Ala Lys Phe Asn Ile Gln Trp Thr Arg Arg Ser Met Trp  
 565 570 575  
 Asp Arg Asn Tyr Ser Glu Thr Arg Leu Pro Ala Ala Pro Ser Thr Ile  
 580 585 590  
 Val Glu Leu Leu Ser His Gln Asn Phe Ala Asp Met Lys Leu Gly His  
 595 600 605  
 Asp Pro Asn Phe Lys Phe Thr Val Gly Arg Ala Ile Tyr Lys Ala Val  
 610 615 620  
 Leu Gln Phe Ile Ser Ser Gln His Asn Lys Glu Tyr Val Val Gln Pro  
 625 630 635 640  
 Leu Pro Val Ser Asn Phe Ala Ile Glu Phe Gly Lys Lys Arg Asn Thr  
 645 650 655  
 Leu Glu Leu Ser Trp Gln Gly Glu Asn Asp Pro Leu Glu Pro Thr Ala  
 660 665 670  
 Arg Pro Arg Glu Tyr Met Val Tyr Thr Arg Ile Gly Tyr Gly Gly Phe  
 675 680 685  
 Asp Asn Gly Val Arg Val Asn Lys Pro Ser Tyr Thr Leu Lys Ile Glu  
 690 695 700  
 Pro Gly Leu Val Tyr Ser Phe Lys Val Thr Ala Val Asn His Gly Gly  
 705 710 715 720  
 Glu Ser Phe Pro Ser Glu Ile Leu Ser Ala Tyr Lys Ala Lys Gln Glu  
 725 730 735  
 His Ala Arg Val Leu Ile Ile Asn Gly Phe Asn Arg Leu Ser Gly Pro  
 740 745 750  
 Ala Val Ile Asp Thr Pro Asp Glu Ala Gly Phe Asp Leu Glu Gln Asp

755	760	765													
Pro	Gly	Val	Ala	Tyr	Gln	Tyr	Asn	Ile	Ser	Leu	Cys	Gly	Ala	Gln	Thr
770						775					780				
Gly	Phe	Asp	Arg	Ser	Gln	Ala	Gly	Lys	Glu	Gly	Lys	Gly	Ser	Leu	Gly
785						790				795					800
Tyr	Ser	Gly	Asn	Glu	Leu	Glu	Gly	Met	Lys	Ile	Ala	Gly	Asn	Thr	Phe
								805		810					815
Asp	Tyr	Pro	Phe	Val	His	Gly	Lys	Ala	Ile	Gln	Ala	Ala	Gly	Asn	Tyr
								820		825					830
Ser	Phe	Val	Ser	Cys	Ser	Asp	Glu	Ala	Val	Glu	Asn	Gly	Arg	Ile	Gln
								835		840					845
Pro	Glu	His	Tyr	Pro	Ile	Val	Asp	Phe	Ile	Leu	Gly	Leu	Glu	Lys	Asp
								850		855					860
Asp	Ile	Leu	Ser	Asn	Pro	Ala	Arg	Lys	Thr	Tyr	Tyr	Lys	Thr	Phe	Ser
								865		870					880
Ser	Pro	Met	Gln	Arg	Ile	Leu	Thr	Ala	Tyr	Cys	Gln	Ser	Gly	Gly	Asn
								885		890					895
Leu	Leu	Val	Ser	Gly	Ser	Tyr	Ile	Gly	Ser	Asp	Met	Ser	Asn	Ser	Gln
								900		905					910
Gly	Asn	Arg	Glu	Phe	Thr	Glu	Lys	Ile	Leu	Lys	Tyr	Gly	Phe	Gln	Gly
								915		920					925
Ser	Leu	Lys	Asp	Thr	Arg	Ser	Gly	Gln	Ile	Thr	Gly	Leu	Gly	Arg	Thr
								930		935					940
Leu	Gln	Ile	Pro	Arg	Leu	Pro	Asn	Glu	Lys	Ala	Tyr	Ala	Val	Thr	Ala
								945		950					960
Pro	Asp	Cys	Ile	Val	Pro	Val	Asp	Ser	Ala	Phe	Pro	Val	Phe	Val	Tyr
								965		970					975
Gln	Pro	Gly	Gln	Tyr	Ser	Ala	Gly	Ile	Ala	Tyr	Lys	Gly	Asn	Tyr	Arg
								980		985					990
Val	Phe	Ala	Met	Gly	Phe	Pro	Phe	Glu	Ser	Ile	Glu	Ser	Glu	Thr	Asp
								995		1000					1005
Arg	Ala	Ile	Val	Met	Ala	Ala	Ile	Leu	Lys	Phe	Phe	Gly	Glu	Lys	
								1010		1015					1020

&lt;210&gt; 6369

&lt;211&gt; 1025

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6369

Phe	Lys	Arg	Asn	Ser	Ser	Leu	Ser	Leu	Gly	Glu	Gly	Arg	Gly	Glu	
1						5			10					15	
Thr	Leu	Leu	Asn	Met	Lys	Val	Ser	Phe	Phe	Ile	Asp	Arg	Pro	Val	Phe
								20		25					30
Ser	Ile	Val	Ile	Ser	Ile	Leu	Ile	Val	Ile	Ile	Gly	Ile	Ile	Gly	Leu
								35		40					45
Thr	Met	Leu	Pro	Val	Asp	Gln	Tyr	Pro	Gln	Ile	Thr	Pro	Pro	Val	Val
								50		55					60
Lys	Ile	Ser	Ala	Ser	Tyr	Pro	Gly	Ala	Ser	Ala	Leu	Thr	Val	Ser	Gln
								65		70					80
Ala	Val	Ala	Thr	Pro	Ile	Glu	Gln	Glu	Ile	Asn	Gly	Thr	Pro	Gly	Met
								85		90					95
Leu	Tyr	Met	Glu	Ser	Asn	Ser	Ser	Asn	Ser	Gly	Gly	Phe	Ser	Ala	Thr
								100		105					110
Val	Thr	Phe	Asp	Val	Ser	Ala	Asp	Pro	Asp	Leu	Ala	Ala	Val	Glu	Ile
								115		120					125
Gln	Asn	Arg	Val	Lys	Leu	Ala	Glu	Ser	Arg	Leu	Pro	Ala	Glu	Val	Ile
								130		135					140
Gln	Asn	Gly	Ile	Ser	Val	Glu	Lys	Gln	Ala	Pro	Ser	Gln	Leu	Met	Thr

145	150	155	160
Leu Thr Leu Met Ser Ser Asp Pro Lys Phe Asp Glu Ile Tyr	Leu Ser		
165	170	175	
Asn Phe Ala Thr Ile Asn Val Leu Asp Val Ile Arg Arg	Ile Pro Gly		
180	185	190	
Val Gly Arg Val Ser Asn Ile Gly Ser Arg Tyr Tyr	Ala Met Gln Ile		
195	200	205	
Trp Ala Glu Pro Asp Lys Leu Ala Asn Phe Gly	Leu Thr Val Gln Asp		
210	215	220	
Leu Gln Asn Ala Leu Lys Asp Gln Asn Arg Glu	Ser Ala Ala Gly Val		
225	230	235	240
Leu Gly Gln Gln Pro Val Lys Gly Leu Asp Val Thr	Ile Pro Ile Thr		
245	250	255	
Thr Gln Gly Arg Leu Ser Thr Val Glu Gln Phe Glu Asn	Ile Val Ile		
260	265	270	
Arg Ala Asn Thr Asn Gly Ser Ile Ile Arg Leu Arg	Asp Val Ala Arg		
275	280	285	
Val Ser Leu Glu Ala Ser Ser Tyr Ser Thr Glu Ser Gly	Ile Asn Gly		
290	295	300	
Lys Asn Ala Ala Val Leu Gly Ile Tyr Met	Leu Pro Gly Ala Asn Ala		
305	310	315	320
Met Glu Val Ala Lys Ser Val Lys Glu Ala Met Asp Glu	Ile Ser Lys		
325	330	335	
Asn Phe Pro Glu Gly Leu Ser Tyr Glu Val Pro Phe Asp	Met Thr Thr		
340	345	350	
Tyr Ile Ser Glu Ser Ile His Glu Val Tyr Lys Thr	Leu Phe Glu Ala		
355	360	365	
Leu Ile Leu Val Val Leu Val Val Tyr Leu Ser	Leu Gln Ser Trp Arg		
370	375	380	
Ala Thr Leu Ile Pro Ile Val Ala Val Pro Ile Ser	Leu Ile Gly Thr		
385	390	395	400
Phe Gly Phe Met Leu Ile Phe Gly Phe Ser	Leu Asn Ile Leu Thr	Leu	
405	410	415	
Leu Gly Leu Ile Leu Ala Ile Gly Ile Val Val Asp	Asp Ala Ile Val		
420	425	430	
Val Val Glu Asn Val Glu Arg Ile Met Glu Glu Glu	Lys Leu Pro Pro		
435	440	445	
Tyr Glu Ala Thr Lys Lys Ala Met Asn Gly	Leu Ala Gly Ala Leu Ile		
450	455	460	
Ala Thr Ser Leu Val Leu Cys Ala Val Phe Val Pro	Val Ser Phe Leu		
465	470	475	480
Ser Gly Ile Thr Gly Gln Leu Tyr Arg Gln Phe Thr	Ile Thr Ile Ala		
485	490	495	
Val Ser Val Leu Ile Ser Thr Val Val Ala Leu Thr	Leu Ser Pro Val		
500	505	510	
Met Cys Ser Leu Ile Leu Lys Pro Asp Asn Gly	Lys Lys Asn Ile		
515	520	525	
Val Phe Arg Lys Ile Asn His Trp Leu Asn Val	Gly Asn His Lys Tyr		
530	535	540	
Val Ile Ala Ile Arg Arg Val Ile Gly Asn Pro	Arg Arg Val Leu Ala		
545	550	555	560
Gly Phe Gly Val Val Leu Ile Gly Ile Leu Leu Ile	His Arg Leu Ile		
565	570	575	
Pro Thr Ser Phe Leu Pro Val Glu Asp Gln Gly	Tyr Phe Lys Ile Glu		
580	585	590	
Leu Glu Leu Pro Glu Gly Ala Thr Leu Glu Arg Thr	Arg Glu Val Thr		
595	600	605	
Asp Arg Ala Ile Thr Tyr Leu Glu Lys Asn Pro	Tyr Ile Ala Tyr Val		
610	615	620	

Gln Asn Val Thr Gly Ser Ser Pro Arg Val Gly Ser Asn Gln Ala Arg  
 625 630 635 640  
 Ser Glu Leu Thr Val Ile Leu Lys Pro Trp Glu Asp Arg Lys Asp Thr  
 645 650 655  
 Ser Ile Asp Glu Ile Met Ser Asn Val Arg His Asp Leu Ser Glu Tyr  
 660 665 670  
 Pro Glu Cys Lys Val Tyr Leu Ser Thr Pro Pro Val Ile Pro Gly Leu  
 675 680 685  
 Gly Thr Ser Gly Gly Phe Glu Met Gln Leu Glu Ala Arg Gly Glu Ala  
 690 695 700  
 Thr Phe Glu Asn Leu Val Gln Ala Ala Asp Thr Leu Met Tyr Tyr Ala  
 705 710 715 720  
 Ser Gln Arg Lys Glu Leu Thr Gly Leu Ser Ser Ser Leu Gln Ser Asp  
 725 730 735  
 Ile Pro Gln Leu Tyr Phe Asp Val Asp Arg Asp Lys Val Lys Met Leu  
 740 745 750  
 Gly Val Pro Leu Ala Asp Val Phe Ser Thr Met Lys Ala Tyr Thr Gly  
 755 760 765  
 Ser Val Tyr Val Asn Asp Phe Asn Met Phe Thr Arg Ile Tyr Lys Val  
 770 775 780  
 Tyr Ile Gln Ala Glu Ala Pro Tyr Arg Asp His Lys Asp Asn Ile Asn  
 785 790 795 800  
 Leu Leu Phe Val Lys Ala Ser Asn Gly Ala Met Ile Pro Leu Thr Ser  
 805 810 815  
 Leu Gly Asn Ala Ser Tyr Thr Thr Gly Pro Gly Ser Ile Lys Arg Phe  
 820 825 830  
 Asn Met Phe Thr Thr Ala Val Phe Arg Gly Glu Ala Ala Gln Gly Tyr  
 835 840 845  
 Ser Ser Gly Gln Ala Met Glu Ile Met Glu Gln Ile Ala Arg Tyr His  
 850 855 860  
 Leu Pro Asp Asn Ile Gly Leu Glu Trp Ser Gly Leu Ser Tyr Gln Glu  
 865 870 875 880  
 Lys Lys Ala Gly Gly Gln Thr Gly Leu Val Leu Ala Leu Val Phe Leu  
 885 890 895  
 Phe Val Phe Leu Phe Leu Ala Ala Gln Tyr Glu Ser Trp Thr Val Pro  
 900 905 910  
 Ile Ala Val Leu Leu Ser Leu Pro Val Ala Ala Leu Gly Ala Tyr Leu  
 915 920 925  
 Gly Val Trp Val Cys Gly Leu Glu Asn Asp Val Tyr Phe Gln Ile Gly  
 930 935 940  
 Leu Val Met Leu Val Gly Leu Ala Ala Lys Asn Ala Ile Leu Ile Val  
 945 950 955 960  
 Glu Phe Ala Lys Val Gln Val Asp Arg Gly Gly Asp Leu Ile Gln Ser  
 965 970 975  
 Ala Ile His Ala Ala Gln Leu Arg Phe Arg Pro Ile Leu Met Thr Ser  
 980 985 990  
 Leu Ala Phe Val Leu Gly Met Leu Pro Met Val Leu Ala Thr Gly Pro  
 995 1000 1005  
 Gly Ser Ala Ser Arg Ala Ala Ile Gly Thr Gly Val Phe Phe Gly Met  
 1010 1015 1020  
 Ile  
 1025

&lt;210&gt; 6370 .

&lt;211&gt; 258

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6370

Leu Phe Met Lys Ile Ser Ile Val Gln Thr Asp Ile Ile Trp Glu Asn  
 1 5 10 15  
 Lys Gln Glu Asn Leu Arg Leu Leu Arg Glu Lys Leu Ser Pro Leu Arg  
 20 25 30  
 Gly Thr Thr Glu Ile Val Val Leu Pro Glu Met Phe Thr Thr Gly Phe  
 35 40 45  
 Ser Met Asn Ser Arg Leu Leu Ala Glu Pro Val Ser Gly Thr Thr Leu  
 50 55 60  
 Arg Ser Leu Lys Asn Tyr Ala Ile Glu Phe His Leu Ser Leu Ala Gly  
 65 70 75 80  
 Ser Phe Ile Cys Glu Glu Gln Gly Ser Tyr Tyr Asn Arg Ala Phe Leu  
 85 90 95  
 Ile Thr Pro Asp Gly Gln Glu Phe Tyr Tyr Asp Lys Arg His Leu Phe  
 100 105 110  
 Arg Met Gly His Glu Ala Glu His Phe Ser Ala Gly Ser Arg Lys Val  
 115 120 125  
 Ile Ile Pro Tyr Asn Gly Trp Asn Ile Cys Leu Gln Val Cys Tyr Asp  
 130 135 140  
 Leu Arg Phe Pro Val Trp Ser Arg Asn Val Asn Asn Glu Tyr Asp Leu  
 145 150 155 160  
 Leu Ile Tyr Val Ala Ser Trp Pro Thr Pro Arg Ile Gln Ala Trp Asn  
 165 170 175  
 Thr Leu Leu Cys Ala Arg Ala Ile Glu Asn Gln Cys Tyr Val Cys Gly  
 180 185 190  
 Val Asn Arg Ile Gly Gln Asp Gly Asn Gly Leu Cys Tyr Pro Gly Tyr  
 195 200 205  
 Ser Ala Leu Tyr Gly Pro Lys Gly Glu Asn Leu Ala Gly Thr Pro Asp  
 210 215 220  
 Ser Glu Glu Lys Ile Gln Thr Ile Glu Leu Ser Leu Glu Ala Leu Thr  
 225 230 235 240  
 Thr Phe Arg His Lys Phe Pro Cys Trp Lys Asp Ala Asp Pro Phe Leu  
 245 250 255  
 Leu Tyr

<210> 6371  
 <211> 112  
 <212> PRT  
 <213> B.fragilis

<400> 6371  
 Thr Ile Asn Glu Glu Arg Gly Thr Ile Asn Ala Arg Arg Met Gly Asn  
 1 5 10 15  
 Ile Leu Lys Asp Lys Ser Met Ala Phe Ala Ile Gln Ile Val Asn Leu  
 20 25 30  
 His Lys Tyr Pro Asn Lys Arg Lys Ala Tyr Ser Leu Ser Asp Gln Ile  
 35 40 45  
 Leu Ile Ser Gly Thr Ala Ile Gly Val Leu Gln Lys Glu Thr Glu Cys  
 50 55 60  
 Ala Glu Ser Asn Ala Asp Phe Ile His Asn Ile Ala Ser Pro Gln Lys  
 65 70 75 80  
 Asn Val Met Lys Pro Phe Ser Gly Leu Asn Cys Tyr Leu Lys Gln Asn  
 85 90 95  
 Ile Tyr Pro Lys Gln Asn Ile Gln Ala Cys Leu Gln Thr Gln Met Asn  
 100 105 110

<210> 6372  
 <211> 125  
 <212> PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6372

Trp	Arg	Thr	Asp	Asp	Phe	Thr	Val	Tyr	Tyr	Phe	Met	Ser	Glu	Ile	Gln
1					5				10						15
Asn	Gln	Ile	Lys	Lys	Trp	Pro	Val	Thr	Ala	Ile	Lys	Lys	Ile	Lys	Ser
					20				25						30
Thr	Phe	Gly	Ser	Ala	Glu	Lys	Phe	Tyr	Ala	Thr	Val	Tyr	Leu	Ile	Ala
					35				40						45
Arg	Asn	Glu	His	His	Cys	Gln	Met	Met	Gly	Val	Ala	Gly	Ala	Glu	Gln
					50				55						60
Arg	Leu	Lys	Thr	Ile	His	Ala	Tyr	Gln	Gly	Met	Ile	Arg	Phe	Met	Leu
65					70				75						80
Asp	Glu	Glu	Gly	Leu	Asn	Gly	Lys	Glu	Ile	Leu	Asp	Thr	Ile	Ala	Gly
					85				90						95
Glu	Tyr	Leu	Glu	Asp	Phe	Val	Asn	Tyr	Arg	Glu	Gln	Asp	Phe	Gly	Met
					100				105						110
Thr	Asn	Glu	Glu	Phe	Ile	Ala	Ile	Ile	Lys	Arg	Ile	Gly			
					115				120						125

&lt;210&gt; 6373

&lt;211&gt; 409

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6373

Leu	Ile	Lys	Asp	Lys	Leu	Ile	Leu	Ile	Ile	Gln	Thr	Ser	Met	Arg	Leu
1					5				10						15
Phe	Phe	Thr	Arg	Lys	Glu	Leu	Lys	Leu	Arg	Arg	Lys	Arg	Thr	Ile	Ala
					20				25						30
Gly	Ile	Val	Cys	Leu	Ala	Leu	Val	Ala	Gly	Ile	Tyr	Trp	Ile	Leu	Thr
					35				40						45
Arg	Pro	His	Lys	Val	Glu	Pro	Glu	Val	Pro	Thr	Val	Ile	Val	Glu	Pro
					50				55						60
Ala	Glu	Arg	Asp	Asn	Val	Glu	Ile	Phe	Gly	Glu	Tyr	Val	Gly	Arg	Ile
65					70				75						80
Arg	Ala	Gln	Gln	Phe	Val	Glu	Val	Arg	Ala	Arg	Val	Glu	Gly	Tyr	Leu
					85				90						95
Glu	Ser	Met	Leu	Phe	Ala	Glu	Gly	Thr	Tyr	Val	Asn	Lys	Asn	Gln	Val
					100				105						110
Leu	Phe	Val	Ile	Asn	Gln	Asp	Gln	Tyr	Arg	Ala	Lys	Ala	Asp	Lys	Ala
					115				120						125
Arg	Ala	Gln	Leu	Lys	Lys	Asp	Glu	Ala	Gln	Ala	Leu	Lys	Ala	Lys	Arg
					130				135						140
Asp	Leu	Glu	Arg	Ile	Lys	Pro	Leu	Tyr	Ala	Gln	Asn	Ala	Ala	Ser	Gln
145					150				155						160
Leu	Asp	Leu	Asp	Asn	Ala	Glu	Ala	Ala	Tyr	Glu	Ser	Ala	Val	Ala	Thr
					165				170						175
Val	Ala	Met	Ser	Glu	Ala	Asp	Leu	Ala	Gln	Ala	Glu	Leu	Glu	Leu	Gly
					180				185						190
Tyr	Thr	Leu	Val	Arg	Ser	Pro	Leu	Ser	Gly	His	Ile	Ser	Glu	Arg	Asn
					195				200						205
Val	Asp	Leu	Gly	Thr	Leu	Val	Gly	Pro	Gly	Gly	Lys	Ser	Leu	Leu	Ala
					210				215						220
Thr	Val	Val	Lys	Ser	Asp	Thr	Val	Leu	Val	Asp	Phe	Ser	Met	Thr	Ala
225					225				230						240
Leu	Asp	Tyr	Leu	Lys	Ser	Lys	Glu	Arg	Asn	Ile	Asn	Ile	Gly	Gln	Gln
					245				250						255
Asp	Ser	Ser	Arg	Ser	Trp	Gln	Pro	Asn	Ile	Thr	Ile	Thr	Leu	Ala	Asp

260	265	270
Asn Thr Val Tyr Pro Tyr Lys Gly	Tyr Val Asp Phe Ala Glu Pro Gln	
275	280	285
Val Asp Pro Gln Thr Gly Thr	Phe Ser Val Arg Ala Glu Met Pro Asn	
290	295	300
Pro Lys Gln Val Leu Leu Pro	Gly Gln Phe Thr Lys Val Lys Leu Leu	
305	310	315
Leu Asp Val Arg Glu Gly Ala Ile Val Val	Pro His Lys Ala Val Thr	
325	330	335
Ile Glu Lys Gly Gly Ala Tyr Ile Tyr Val Met Arg Arg Asp Ser Thr		
340	345	350
Ala Glu Lys Arg Phe Ile Glu Leu Gly Pro Glu Phe Gly Asn Lys Leu		
355	360	365
Val Val Glu Arg Gly Leu Gly Ala Gly Glu Val Val Val Glu Gly		
370	375	380
Tyr His Lys Leu Thr Pro Gly Met Lys Val Arg Ala Thr Leu Pro Gln		
385	390	395
Pro Ser Ala Glu Asn Lys Glu Thr Glu		
405		

&lt;210&gt; 6374

&lt;211&gt; 981

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6374

Asn Cys Thr Trp Val Ser Gly Trp Ile Arg Val Ser Leu Arg Met Tyr		
1	5	10
Cys Ile Val Thr Gly Leu Asn Thr Trp Ile Met Tyr Thr Asn Arg Gly		
20	25	30
Gln Tyr Ala Val Arg Gly Ser Ile Ile Asp Val Phe Ser Phe Ser Ser		
35	40	45
Glu Tyr Pro Tyr Arg Ile Asp Phe Phe Gly Asn Asp Val Glu Ser Ile		
50	55	60
Arg Thr Phe Glu Val Asp Ser Gln Leu Ser Lys Glu Lys Lys Glu Ser		
65	70	75
Ile Val Ile Val Pro Asp Leu Ala Val Thr Gly Lys Val Thr Thr Ser		
85	90	95
Phe Leu Asp Phe Ile Pro Lys Asp Thr Thr Leu Ala Met Arg Asp Phe		
100	105	110
Leu Trp Leu Arg Glu Arg Ile Gln Val Val His Asp Glu Ser Leu Thr		
115	120	125
Pro Gln Ala Leu Ala Ser Gln Glu Ala Glu Glu Asn Gly Gly Ile Thr		
130	135	140
Leu Glu Gly Lys Leu Ile Asp Gly Ser Glu Phe Thr Val Arg Ala Leu		
145	150	155
Asp Phe Arg Arg Met Glu Phe Gly Asn Lys Pro Thr Gly Thr Pro Asp		
165	170	175
Ala Thr Leu Thr Phe His Thr Thr Ala Gln Pro Ile Phe His Lys Asn		
180	185	190
Phe Asp Leu Val Ala Glu Ser Phe Lys Glu Tyr Leu Asn Arg Gly Tyr		
195	200	205
Ala Leu Tyr Ile Cys Ser Asp Ser Thr Lys Gln Thr Asp Arg Ile Lys		
210	215	220
Ala Ile Phe Glu Asp Arg Gly Asp Arg Ile Gln Phe Thr Ala Val Glu		
225	230	235
Arg Thr Leu His Glu Gly Phe Ala Asp Asp Thr Leu Lys Leu Cys Leu		
245	250	255
Phe Thr Asp His Gln Leu Phe Asp Arg Phe His Lys Tyr Asn Leu Lys		

260	265	270
Ser Asp Lys Ala Arg Ser Gly	Val Ala Leu Ser	Leu Lys Glu Leu
275	280	285
Asn Gln Phe Thr Pro Gly	Asp Tyr Val Val His	Thr Asp His Gly Val
290	295	300
Gly Arg Phe Ser Gly	Leu Val Arg Ile Pro Asn	Gly Asp Thr Thr Gln
305	310	315
Glu Val Met Asn Leu Val	Tyr Gln Asn Glu Asp Val	Val Phe Val Ser
325	330	335
Ile His Ser Leu His Lys	Val Ser Lys Tyr Lys	Gly Lys Glu Gly Glu
340	345	350
Ala Pro Arg Leu Asn Lys	Leu Gly Thr Gly	Ala Trp Glu Lys Leu Lys
355	360	365
Glu Arg Thr Lys Pro Lys	Ile Lys Asp Ile Ala Arg	Asp Leu Ile Lys
370	375	380
Leu Tyr Ser Gln Arg Arg	Glu Glu Lys Gly	Phe Ala Tyr Ser Pro Asp
385	390	395
Ser Phe Leu Gln Arg Glu	Leu Glu Ala Ser	Phe Ile Tyr Glu Asp Thr
405	410	415
Pro Asp Gln Ser Lys Ala	Thr Ala Asp Val	Lys Gln Asp Met Glu Arg
420	425	430
Asp Met Pro Met Asp Arg	Leu Val Cys Gly	Asp Val Gly Phe Gly Lys
435	440	445
Thr Glu Val Ala Ile Arg	Ala Ala Phe Lys	Ala Val Ala Asp Asn Lys
450	455	460
Gln Val Ala Val Leu Val	Pro Thr Thr Val	Leu Ala Tyr Gln His Phe
465	470	475
Gln Thr Phe Arg Asp Arg	Leu Lys Gly	Leu Pro Cys Arg Val Glu Tyr
485	490	495
Leu Ser Arg Ala Arg Thr	Ala Ala Gln	Ala Lys Ala Val Ile Lys Gly
500	505	510
Leu Glu Ala Gly Asp Val	Asn Ile Leu Ile	Gly Thr His Arg Ile Leu
515	520	525
Gly Lys Asp Val Lys Phe	Lys Asp Leu Gly	Leu Leu Ile Ile Asp Glu
530	535	540
Glu Gln Lys Phe Gly Val	Ser Val Lys	Glu Lys Leu Arg Gln Met Lys
545	550	555
Val Asn Val Asp Thr	Leu Thr Met Thr	Ala Thr Pro Ile Pro Arg Thr
565	570	575
Leu Gln Phe Ser Leu Met	Gly Ala Arg Asp	Leu Ser Val Ile Ser Thr
580	585	590
Pro Pro Pro Asn Arg Tyr	Pro Ile Gln Thr	Glu Val His Thr Phe Ser
595	600	605
Glu Glu Val Ile Ala Asp	Ala Ile Asn Phe	Glu Met Ser Arg Asn Gly
610	615	620
Gln Val Phe Leu Val Asn	Asn Arg Ile Ala Asn	Leu Pro Glu Leu Lys
625	630	635
Ala Met Ile Leu Arg His	Ile Pro Asp Cys	Arg Ile Ala Ile Gly His
645	650	655
Gly Gln Met Glu Pro Ala	Glu Leu Glu Gln	Ile Ile Phe Gly Phe Val
660	665	670
Asn Tyr Asp Tyr Asp Val	Leu Ile Ala Thr	Thr Ile Ile Glu Ser Gly
675	680	685
Ile Asp Ile Pro Asn Ala	Asn Thr Ile Ile	Asn Gln Ala Gln Asn
690	695	700
Phe Gly Leu Ser Asp Leu	His Gln Met Arg	Gly Arg Val Gly Arg Ser
705	710	715
Asn Lys Lys Ala Phe Cys	Tyr Leu Leu Ala	Pro Pro Leu Ser Ser Leu
725	730	735

Thr Pro Glu Ala Lys Arg Arg Leu Gln Ala Ile Glu Asn Phe Ser Asp  
 740 745 750  
 Leu Gly Ser Gly Ile His Ile Ala Met Gln Asp Leu Asp Ile Arg Gly  
 755 760 765  
 Ala Gly Asn Met Leu Gly Ala Glu Gln Ser Gly Phe Ile Ala Asp Leu  
 770 775 780  
 Gly Tyr Glu Thr Tyr Gln Lys Ile Leu Ser Glu Ala Val His Glu Leu  
 785 790 795 800  
 Lys Thr Asp Glu Phe Ala Glu Leu Tyr Ala Asp Glu Leu Lys Gly Glu  
 805 810 815  
 Gly Val Ile Ser Gly Glu Glu Phe Val Glu Glu Cys Gln Val Glu Ser  
 820 825 830  
 Asp Leu Glu Leu Leu Pro Ala Asn Tyr Val Thr Gly Ser Ser Glu  
 835 840 845  
 Arg Met Leu Leu Tyr Arg Glu Leu Asp Gly Leu Thr Leu Asp Arg Asp  
 850 855 860  
 Val Asp Ala Phe Arg Ser Arg Leu Glu Asp Arg Phe Gly Pro Ile Pro  
 865 870 875 880  
 Pro Glu Thr Glu Glu Leu Leu Arg Ile Val Pro Leu Arg Arg Leu Ala  
 885 890 895  
 Ala Arg Leu Gly Val Glu Lys Val Phe Leu Lys Gly Arg Met Thr  
 900 905 910  
 Leu Phe Phe Val Asn Asn Ala Glu Ser Pro Tyr Tyr Gln Ser Ala Ala  
 915 920 925  
 Phe Gly Lys Met Ile Asp Tyr Met Met Lys Tyr Thr Arg Arg Cys Asp  
 930 935 940  
 Leu Arg Glu Gln Asn Gly Arg Arg Ser Met Leu Val Lys Asp Ile Pro  
 945 950 955 960  
 Asn Val Glu Thr Ala Val Ser Val Leu Leu Glu Ile Val Ala Leu Pro  
 965 970 975  
 Val Lys Glu Lys Glu  
 980

<210> 6375  
 <211> 113  
 <212> PRT  
 <213> B.fragilis

<400> 6375  
 Arg Pro Ala Arg Pro Leu Tyr Arg Cys Asp Leu Ser Gln Gln Tyr Glu  
 1 5 10 15  
 Ser Ile Arg Val Ala Ala Thr His Gln Ala Leu Ser His Leu Val Val  
 20 25 30  
 Lys Ala Gly Ser Arg Arg Arg Gly Gly Met Ile Thr Val Asp Thr  
 35 40 45  
 Cys Gly Met Thr Asn Tyr Ser Pro Leu Ile Pro Ala Ile Lys Ala Met  
 50 55 60  
 Cys Asn Ala Asn Pro Gly Asp Lys Met Glu Ile Val Thr Asp Gln Val  
 65 70 75 80  
 Ala Ala Phe Gln Asp Leu Lys Glu Tyr Leu Ser Glu Gln Gly Ile Gly  
 85 90 95  
 Phe Arg Glu Ile Tyr Asp Gly Glu Arg Met Thr Leu Gln Phe Thr Ile  
 100 105 110  
 Leu

<210> 6376  
 <211> 392  
 <212> PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6376

Leu Ile Thr Arg Met Leu Thr Gln Leu Ile Asn Ala Arg Ile Leu Thr  
 1               5               10               15  
 Pro Gln Gly Trp Met Lys Asp Gly Ser Val Leu Ile Arg Asp Asn Lys  
 20              25              30  
 Ile Leu Glu Val Thr Asn Cys Asp Leu Ala Val Ile Gly Ala Glu Leu  
 35              40              45  
 Ile Asp Val Lys Gly Met Tyr Val Val Pro Gly Gly Val Glu Ile His  
 50              55              60  
 Val His Gly Gly Gly Arg Asp Phe Met Glu Cys Thr Glu Asp Ala  
 65              70              75              80  
 Phe Arg Ala Ala Val His Thr His Met Lys His Gly Thr Thr Ser Ile  
 85              90              95  
 Phe Pro Thr Leu Ser Ser Thr Val Pro Met Ile Gln Gln Ala Ala  
 100             105             110  
 Glu Thr Cys Thr Lys Leu Met Glu Glu Lys Asn Ser Pro Ile Leu Gly  
 115             120             125  
 Leu His Leu Glu Gly His Tyr Leu Asn Met Lys Met Ala Gly Gly Gln  
 130             135             140  
 Ile Pro Glu Asn Ile Lys Asn Pro Asp Pro Asn Glu Tyr Ile Pro Ile  
 145             150             155             160  
 Val Glu Gln Tyr His Cys Ile Lys Arg Trp Asp Ala Ala Pro Glu Leu  
 165             170             175  
 Pro Gly Ala Met Gln Phe Gly Lys Tyr Ile Ala Ala Lys Gly Ile Leu  
 180             185             190  
 Pro Ser Val Ala His Thr Gln Ala Glu Phe Glu Asp Ile Arg Thr Ala  
 195             200             205  
 Tyr Glu Ala Gly Tyr Thr His Ala Thr His Phe Tyr Asn Ala Met Pro  
 210             215             220  
 Gly Phe His Lys Arg Arg Glu Tyr Lys Tyr Glu Gly Thr Val Glu Ser  
 225             230             235             240  
 Ile Tyr Leu Leu Asp Asp Met Thr Val Glu Val Val Ala Asp Gly Ile  
 245             250             255  
 His Val Pro Pro Thr Ile Leu Arg Leu Val Tyr Lys Ile Lys Gly Val  
 260             265             270  
 Glu Arg Thr Cys Leu Ile Thr Asp Ala Leu Ala Cys Ala Asp Ser Asp  
 275             280             285  
 Ser Lys Glu Ala Phe Asp Pro Arg Val Ile Ile Glu Asp Gly Val Cys  
 290             295             300  
 Lys Leu Ala Asp His Ser Ala Leu Ala Gly Ser Val Ala Thr Met Asp  
 305             310             315             320  
 Arg Leu Ile Arg Thr Val Val Gln Lys Ala Glu Ile Pro Leu Glu Asp  
 325             330             335  
 Ala Val Arg Met Ala Ser Glu Thr Pro Ala Arg Ile Met Gly Val Tyr  
 340             345             350  
 Asp Arg Lys Gly Ser Leu Gln Lys Gly Lys Asp Ala Asp Ile Leu Val  
 355             360             365  
 Leu Asp Glu Asp Leu Asn Val Arg Ala Val Trp Ala Met Gly Lys Leu  
 370             375             380  
 Val Pro Glu Thr Asn Thr Leu Phe  
 385             390

&lt;210&gt; 6377

&lt;211&gt; 196

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6377

Asn His Arg Arg Tyr Arg Glu Thr Glu Leu Arg Met Lys Lys Ala Ile  
 1 5 10 15  
 Tyr Ser Phe Ile Tyr Tyr His Leu Leu Gly Trp Lys Thr Asn Val Thr  
 20 25 30  
 Val Pro Asn Tyr Asp Lys Cys Val Ile Cys Ala Ala Pro His Thr Thr  
 35 40 45  
 Asn Met Asp Leu Phe Ile Gly Lys Leu Phe Tyr Gly Ala Ile Gly Arg  
 50 55 60  
 Lys Thr Ser Phe Met Met Lys Lys Glu Trp Phe Phe Pro Leu Gly  
 65 70 75 80  
 Ile Leu Phe Lys Ala Val Gly Gly Ile Pro Val Asn Arg Gly Arg Lys  
 85 90 95  
 Ser Ser Leu Val Glu Gln Met Ala Glu Val Phe Ala Lys Arg Pro Lys  
 100 105 110  
 Phe His Leu Ala Ile Thr Pro Glu Gly Thr Arg Lys Arg Asn Pro Asn  
 115 120 125  
 Trp Lys Lys Gly Phe Tyr Tyr Ile Ala Leu Lys Ala Gln Val Pro Ile  
 130 135 140  
 Val Leu Ile Gly Ile Asp Tyr Asn Thr Lys Thr Val Thr Ser Thr Lys  
 145 150 155 160  
 Ala Ile Met Pro Ser Gly Asp Ile Glu Lys Asp Met Arg Glu Ile Lys  
 165 170 175  
 Leu Tyr Phe Lys Asp Phe Lys Gly Lys His Pro Glu Asn Phe Ser Ile  
 180 185 190  
 Gly Asp Val Glu  
 195

&lt;210&gt; 6378

<211> 460  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 6378

Asp Met Lys Arg Thr Leu Ile Gln Asn Ala Thr Ile Val Asn Glu Gly  
 1 5 10 15  
 Arg Ser Val Arg Gly Ser Val Val Ile Glu Gly Glu Lys Ile Ala Glu  
 20 25 30  
 Val Leu Glu Lys Gly Gln Lys Pro Ala Ile Pro Cys Glu Glu Thr Ile  
 35 40 45  
 Asn Ala Asn Gly Cys Tyr Leu Ile Pro Gly Val Ile Asp Asp His Val  
 50 55 60  
 His Phe Arg Asp Pro Gly Leu Thr His Lys Ala Asp Ile Ser Thr Glu  
 65 70 75 80  
 Ser Arg Ala Ala Ala Gly Gly Val Thr Ser Ile Met Asp Met Pro  
 85 90 95  
 Asn Thr Asn Pro Gln Thr Thr Leu Asp Ala Leu Asn Ala Lys Phe  
 100 105 110  
 Asp Leu Leu Ala Glu Lys Cys Ser Val Asn Tyr Ser Cys Tyr Phe Gly  
 115 120 125  
 Ala Thr Asn Asn Asn Tyr Thr Glu Phe Asp Lys Leu Asp Lys Asn Arg  
 130 135 140  
 Val Cys Gly Ile Lys Leu Phe Met Gly Ser Ser Thr Gly Asn Met Leu  
 145 150 155 160  
 Val Asp Lys Met Asn Ser Leu Leu Asn Ile Phe Asn Gly Thr Asp Leu  
 165 170 175  
 Leu Ile Ala Ala His Cys Glu Asn His Glu Thr Ile Lys Lys Asn Thr  
 180 185 190  
 Glu Lys Tyr Val Lys Glu Tyr Ile Glu Lys Tyr Pro His Gln Tyr Tyr

195	200	205
His Val His His Glu Thr Leu Pro Met Gly Tyr His Ala Lys Ile Arg		
210	215	220
Ser Ile Ala Ala Cys Tyr Glu Ser Ser Glu Leu Ala Val Arg Leu Ala		
225	230	235
Arg Ile Ala Asp Ala Arg Leu His Ile Leu His Ile Ser Thr Ala Arg		
245	250	255
Glu Leu Ser Leu Phe Asp Asn Asp Ile Pro Leu Glu Glu Lys Arg Ile		
260	265	270
Thr Ala Glu Ala Cys Val Ser His Leu Leu Phe Asp Ser Ser Asp Tyr		
275	280	285
Pro Glu Leu Gly Ala Arg Ile Lys Cys Asn Pro Ser Ile Lys Thr Lys		
290	295	300
Thr Asn Arg Asp Ala Leu Arg Gln Ala Val Asn Ser Asn Leu Ile Asp		
305	310	315
Val Ile Ala Thr Asp His Ala Pro His Leu Leu Lys Glu Lys Glu Gly		
325	330	335
Gly Pro Leu Lys Ala Met Ser Gly Met Pro Met Ile Gln Phe Ser Leu		
340	345	350
Val Ser Met Leu Glu Leu Val Asn Glu Gly Ile Phe Thr Ile Glu Lys		
355	360	365
Val Val Glu Lys Met Cys His Ala Pro Ala Gln Ile Tyr Asn Ile His		
370	375	380
Asn Arg Gly Phe Ile Arg Pro Gly Tyr Gln Ala Asp Leu Val Leu Val		
385	390	395
Arg Pro Asp Ala Leu Trp Thr Val Ser Ala Asp Gln Ile Leu Ser Lys		
405	410	415
Cys Gly Trp Ser Pro Leu Glu Gly Arg Thr Phe Glu Trp Lys Val Glu		
420	425	430
Lys Thr Phe Ala Asn Gly His Leu Leu Tyr Thr Asp Gly Gln Val Asp		
435	440	445
Glu Thr Tyr Arg Gly Gln Glu Ile Tyr Phe Glu Arg		
450	455	460

&lt;210&gt; 6379

&lt;211&gt; 262

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6379

Arg Arg Val Arg Ser Leu Glu Leu Phe Thr Leu Leu Leu Phe Lys Gln		
1	5	10
Lys Arg Tyr Lys Leu Tyr Met Lys Gln Glu Lys Phe Phe Arg Leu Leu		
20	25	30
Pro Ile Glu Gly Ala Tyr Asn Ile Arg Asp Leu Gly Gly Tyr Pro Thr		
35	40	45
Ser Asp His Lys His Val Lys Trp Lys Thr Phe Ile Arg Ser Gly Asp		
50	55	60
Leu Asp Lys Leu Thr Glu Ser Asp Leu Asp Tyr Leu Thr Ser Leu His		
65	70	75
Ile Arg Thr Asp Ile Asp Phe Arg Ser Met Gln Glu Lys Lys Ala Ala		
85	90	95
Ala Asp Lys Ile Pro Ser Thr Val Thr Gln Tyr Ile Pro Leu Ser Ile		
100	105	110
Glu Ala Gly Asp Met Thr Asp Met Ala His Phe Asn Leu Asn Asn Ile		
115	120	125
Pro Gly Ile Leu Glu Gln Ala Tyr Val Tyr Ile Ile Gln Asn Ala Gln		
130	135	140
Asp Thr Tyr Arg Glu Phe Phe Arg Ile Val Ser Glu Glu Arg Asn Thr		

145	150	155	160
Pro Leu Leu Phe His Cys Ser Ala Gly Lys Asp Arg Thr Gly Ile Ala			
165	170	175	
Ala Ala Leu Leu Leu Gly Ala Leu Gly Val Asp Arg Glu Val Ile Met			
180	185	190	
Glu Asp Tyr Met Leu Ser Ala Glu Tyr Ile Lys Gly Lys Tyr Asp Ala			
195	200	205	
Ile Val Gln Ala His Pro Gly Phe Ala Pro Leu Thr Thr Val Arg Lys			
210	215	220	
Glu Tyr Leu Glu Ala Ala Phe Gln Thr Ile Asp Thr Asp Tyr Gln Gly			
225	230	235	240
Met Asp Asn Tyr Leu Lys Asn Gln Leu Gly Val Asp Thr His Arg Leu			
245	250	255	
Arg Met Leu Tyr Thr Glu			
260			

&lt;210&gt; 6380

&lt;211&gt; 161

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6380

Val Glu Arg Met Asp Ile Phe Leu Ile Ile Leu Gly Ser Ile Cys Leu			
1	5	10	15
Leu Val Gly Leu Ala Gly Cys Ile Val Pro Met Leu Pro Gly Pro Pro			
20	25	30	
Val Ser Tyr Leu Ala Leu Val Phe Leu His Phe Thr Asp Lys Val Ser			
35	40	45	
Phe Thr Ile Pro Gln Leu Phe Phe Trp Leu Phe Ile Val Val Leu Ile			
50	55	60	
Gln Ile Leu Asp Tyr Phe Ile Pro Met Phe Gly Val Lys Arg Leu Gly			
65	70	75	80
Gly Thr Pro Trp Gly Lys Trp Gly Cys Ile Ile Gly Thr Phe Ala Gly			
85	90	95	
Ile Phe Leu Phe Ala Pro Trp Gly Val Phe Ile Gly Pro Phe Val Gly			
100	105	110	
Ala Val Val Gly Glu Leu Leu Gly Gly Lys Glu Thr Lys Tyr Ala Leu			
115	120	125	
Lys Ala Gly Phe Gly Ala Phe Ala Gly Phe Leu Leu Gly Thr Val Leu			
130	135	140	
Lys Val Ala Val Cys Gly Trp Phe Ile Phe Cys Phe Ile Arg Ala Leu			
145	150	155	160
Val			

&lt;210&gt; 6381

&lt;211&gt; 263

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6381

Arg Lys Ser Ile Thr Phe Val Phe Lys Phe Arg His Asn Met Gln Thr			
1	5	10	15
Ser Asp Ser Ile Val Ile Ile Pro Thr Tyr Asn Glu Arg Glu Asn Ile			
20	25	30	
Glu Asn Ile Ile Arg Ala Val Phe Gly Leu Glu Lys Thr Phe His Ile			
35	40	45	
Leu Ile Ile Glu Asp Gly Ser Pro Asp Gly Thr Ala Ala Ile Val Lys			
50	55	60	

Thr Leu Gln Gln Glu Phe Pro Asp Arg Leu Phe Met Ile Glu Arg Lys  
 65 70 75 80  
 Gly Lys Leu Gly Leu Gly Thr Ala Tyr Ile Thr Gly Phe Lys Trp Ala  
 85 90 95  
 Leu Glu His Ser Tyr Glu Tyr Ile Phe Glu Met Asp Ala Asp Phe Ser  
 100 105 110  
 His Asn Pro Asn Asp Leu Pro Arg Leu Tyr Glu Ala Cys Ala Val Gln  
 115 120 125  
 Gly Gly Asp Val Ala Ile Gly Ser Arg Tyr Val Ser Gly Val Asn Val  
 130 135 140  
 Val Asn Trp Pro Met Gly Arg Val Leu Met Ser Tyr Phe Ala Ser Lys  
 145 150 155 160  
 Tyr Val Arg Ile Val Thr Gly Leu Pro Ile His Asp Thr Thr Ala Gly  
 165 170 175  
 Phe Lys Cys Tyr Arg Arg Gln Val Leu Glu Thr Ile Asp Leu Asp His  
 180 185 190  
 Ile Arg Phe Lys Gly Tyr Ala Phe Gln Ile Glu Met Lys Phe Thr Ala  
 195 200 205  
 Tyr Lys Cys Gly Phe Lys Ile Ile Glu Val Pro Val Ile Phe Ile Asn  
 210 215 220  
 Arg Glu Leu Gly Thr Ser Lys Met Asn Ser Ser Ile Phe Gly Glu Ala  
 225 230 235 240  
 Val Phe Gly Val Ile Lys Leu Lys Val Asn Ser Trp Phe His Thr Phe  
 245 250 255  
 Pro Gln Lys Thr Lys Met Asn  
 260

&lt;210&gt; 6382

&lt;211&gt; 689

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6382

Leu Ile Val Phe Ile Tyr Ile Cys Ser Glu Phe Pro Ile Thr Thr Lys  
 1 5 10 15  
 Thr Gln Ser Asn Leu Ile Asn Asn Lys Leu Met Lys Thr Asn Leu Ser  
 20 25 30  
 Ser Gln Ile Thr Leu Asn Arg Val Ser Pro Arg Tyr Tyr Arg Pro Glu  
 35 40 45  
 Asn Ala Phe Glu Arg Ser Val Leu Thr Arg Leu Glu Lys Ile Pro Thr  
 50 55 60  
 Asp Ile Tyr Glu Ser Val Glu Glu Gly Ala Asn His Ile Ala Cys Glu  
 65 70 75 80  
 Ile Ala Gln Val Ile Arg Asp Lys Gln Lys Ala Gly Arg Phe Cys Val  
 85 90 95  
 Leu Ala Leu Pro Gly Gly Asn Ser Pro Arg Ser Val Tyr Ala Glu Leu  
 100 105 110  
 Ile Arg Met His Lys Glu Glu Gly Leu Ser Phe Arg Asn Val Ile Val  
 115 120 125  
 Phe Asn Met Tyr Glu Tyr Tyr Pro Leu Ser Gln Asp Ala Ile Asn Ser  
 130 135 140  
 Asn Phe Asn Ala Leu Lys Glu Met Phe Leu Asp His Val Asp Ile Asp  
 145 150 155 160  
 Lys Gln Asn Ile Phe Thr Pro Asp Gly Thr Ile Ala Lys Asp Thr Ile  
 165 170 175  
 Phe Glu Tyr Cys Arg Leu Tyr Glu Gln Arg Ile Glu Ser Phe Gly Gly  
 180 185 190  
 Ile Asp Ile Ala Leu Leu Gly Ile Gly Arg Val Gly Asn Ile Ala Phe  
 195 200 205

Asn Glu Pro Gly Ser Arg Leu Asn Ser Thr Thr Arg Leu Ile Leu Leu  
 210 215 220  
 Asp Ser Gly Ser Arg Asn Glu Ala Ser Lys Ile Phe Gly Thr Ile Asp  
 225 230 235 240  
 Asn Thr Pro Ile Ser Ser Ile Thr Met Gly Val Ala Thr Ile Leu Ala  
 245 250 255  
 Ala Lys Lys Ile Tyr Leu Leu Ala Trp Gly Glu Glu Lys Ala His Met  
 260 265 270  
 Val Lys Glu Cys Val Glu Gly Asn Val Thr Asp Thr Ile Pro Ala Ser  
 275 280 285  
 Tyr Leu Gln Thr His Asn Asn Ala His Val Ala Ile Asp Leu Ser Ala  
 290 295 300  
 Ala Ser Asn Leu Thr Arg Ile Gln Arg Pro Trp Leu Val Thr Ser Cys  
 305 310 315 320  
 Glu Trp Asn Asp Lys Leu Ile Arg Ser Ala Ile Val Trp Leu Cys Gln  
 325 330 335  
 Leu Thr Gly Lys Pro Ile Leu Lys Leu Thr Asn Lys Asp Tyr Asn Glu  
 340 345 350  
 Asn Gly Leu Ser Glu Leu Leu Ala Leu Phe Gly Ser Ala Tyr Asn Val  
 355 360 365  
 Asn Ile Lys Ile Phe Asn Asp Leu Gln His Thr Ile Thr Gly Trp Pro  
 370 375 380  
 Gly Gly Lys Pro Lys Ala Asp Asp Thr Tyr Arg Pro Glu Arg Ala Lys  
 385 390 395 400  
 Pro Tyr Pro Lys Arg Val Val Val Phe Ser Pro His Pro Asp Asp Asp  
 405 410 415  
 Val Ile Ser Met Gly Gly Thr Ile Arg Arg Leu Val Glu Gln Lys His  
 420 425 430  
 Glu Val His Val Ala Tyr Gln Thr Ser Gly Asn Ile Ala Val Gly Asp  
 435 440 445  
 Glu Glu Val Val Arg Phe Met His Phe Ile Asn Gly Phe Asn Gln Ile  
 450 455 460  
 Phe Ile Asn Ser Glu Asp Gln Val Ile Ser Glu Lys Tyr Ala Glu Ile  
 465 470 475 480  
 Arg Lys Phe Leu Lys Asp Lys Asp Gly Asp Met Asp Thr Arg Asp  
 485 490 495  
 Ile Leu Thr Ile Lys Gly Leu Ile Arg Arg Gly Glu Ala Arg Thr Ala  
 500 505 510  
 Cys Thr Tyr Asn Asn Ile Pro Leu Glu Arg Cys His Phe Leu Asp Leu  
 515 520 525  
 Pro Phe Tyr Glu Thr Gly Lys Ile Gln Lys Asn Pro Ile Ser Glu Ala  
 530 535 540  
 Asp Val Glu Ile Val Arg Asn Leu Leu Arg Glu Val Lys Pro His Gln  
 545 550 555 560  
 Ile Phe Val Ala Gly Asp Leu Ala Asp Pro His Gly Thr His Arg Val  
 565 570 575  
 Cys Thr Asp Ala Val Phe Ala Ala Val Asp Leu Glu Lys Glu Glu Gly  
 580 585 590  
 Ala Glu Trp Leu Lys Asp Cys Arg Ile Trp Met Tyr Arg Gly Ala Trp  
 595 600 605  
 Ala Glu Trp Glu Ile Glu Asn Ile Glu Met Ala Val Pro Ile Ser Pro  
 610 615 620  
 Glu Glu Leu Arg Ala Lys Arg Asn Ser Ile Leu Lys His Gln Ser Gln  
 625 630 635 640  
 Met Glu Ser Ala Pro Phe Leu Gly Asn Asp Glu Arg Leu Phe Trp Gln  
 645 650 655  
 Arg Ser Glu Asp Arg Asn Arg Gly Thr Ala Ala Leu Tyr Asp Ser Leu  
 660 665 670  
 Gly Leu Ala Ser Tyr Glu Ala Met Glu Ala Phe Val Glu Tyr Ile Pro

675

680

685

Leu

&lt;210&gt; 6383

&lt;211&gt; 204

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6383

Trp	Ala	Lys	Ile	Ala	Phe	Met	Thr	Ile	Thr	Glu	Leu	Gln	His	Gln	Tyr
1						5			10					15	
Ala	Gly	His	Pro	Asn	Val	Glu	Ala	Leu	Asn	Lys	Leu	Leu	Gly	Glu	Pro
						20			25					30	
Ala	Val	Arg	His	Ile	Tyr	Cys	Gly	Gly	Leu	Tyr	Ala	Ser	Ala	Ala	Ser
						35			40					45	
Leu	Phe	Ala	Ser	Ala	Leu	Val	Glu	Lys	Ser	Pro	Cys	Pro	Phe	Val	Phe
						50			55					60	
Ile	Leu	Gly	Asp	Leu	Glu	Glu	Ala	Gly	Tyr	Phe	Tyr	His	Asp	Leu	Thr
						65			70					80	
Gln	Val	Leu	Gly	Thr	Glu	Arg	Ile	Leu	Phe	Phe	Pro	Ser	Ser	Phe	Arg
						85			90					95	
Arg	Ser	Val	Lys	Tyr	Gly	Gln	Lys	Asp	Ala	Ala	Asn	Glu	Ile	Leu	Arg
						100			105					110	
Thr	Glu	Val	Leu	Ser	Arg	Leu	Gln	Lys	Gly	Glu	Glu	Gly	Leu	Cys	Ile
						115			120					125	
Val	Thr	Tyr	Pro	Asp	Ala	Leu	Ala	Glu	Lys	Val	Val	Ser	Arg	Gln	Glu
						130			135					140	
Leu	Ser	Glu	Asn	Thr	Leu	Lys	Leu	His	Val	Gly	Glu	Arg	Val	Asp	Thr
						145			150					160	
Gly	Phe	Ile	Thr	Asp	Val	Leu	His	Ser	Tyr	Gly	Phe	Glu	Tyr	Val	Asp
						165			170					175	
Tyr	Val	Tyr	Glu	Pro	Gly	Pro	Val	Cys	Arg	Ser	Trp	Lys	Tyr	Tyr	Arg
						180			185					190	
Arg	Val	Phe	Ile	Phe	Val	Arg	Val	Ser	Leu	Ser	Tyr				
						195			200						

&lt;210&gt; 6384

&lt;211&gt; 65

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6384

Leu	Tyr	Lys	Ile	Gly	Ser	Cys	Ser	Thr	Leu	Gln	Met	Ile	Ile	Arg	Ala
1									5					10	15
Gln	Ile	Ile	Arg	Leu	Glu	Asp	Ser	Ile	Met	Lys	Leu	Glu	Lys	Tyr	Tyr
									20					25	30
Arg	Thr	Lys	Thr	Ala	Gly	Leu	Glu	Gly	Gln	Pro	Asn	Lys	Lys	Asn	
									35					40	45
Lys	Arg	Met	Ala	Asp	Ile	Val	Ala	Val	Asn	Val	Lys	Tyr	Val	Leu	Phe
									50					55	60
Gly															
65															

&lt;210&gt; 6385

&lt;211&gt; 642

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6385

Leu Tyr Ala Val Gly Ser Ser Ser Ala Leu Ser Val Pro Ser Tyr Ser  
 1 5 10 15  
 Glu Ile Ile Arg Ile Phe Val Pro Met Lys Glu Tyr Arg Leu Thr Asp  
 20 25 30  
 Trp Leu Pro Thr Thr Lys Lys Glu Val Glu Leu Arg Gly Trp Asp Glu  
 35 40 45  
 Leu Asp Val Ile Leu Phe Ser Gly Asp Ala Tyr Val Asp His Pro Ser  
 50 55 60  
 Phe Gly Ala Ala Val Ile Gly Arg Ile Leu Glu Ala Glu Gly Leu Arg  
 65 70 75 80  
 Val Ala Ile Val Pro Gln Pro Asn Trp Arg Asp Asp Leu Arg Asp Phe  
 85 90 95  
 Arg Lys Leu Gly Arg Pro Arg Leu Phe Phe Gly Ile Ser Ala Gly Cys  
 100 105 110  
 Met Asp Ser Met Val Asn Lys Tyr Thr Ala Asn Lys Arg Leu Arg Ser  
 115 120 125  
 Asp Asp Ala Tyr Thr Pro Asp Gly Arg Pro Asp Met Arg Pro Glu Tyr  
 130 135 140  
 Pro Ser Ile Val Tyr Thr Gln Ile Leu Lys Lys Leu Tyr Pro Asp Val  
 145 150 155 160  
 Pro Val Val Leu Gly Gly Ile Glu Ala Ser Met Arg Arg Leu Ser His  
 165 170 175  
 Tyr Asp Tyr Trp Gln Asp Arg Leu Lys Lys Ser Ile Leu Cys Glu Ser  
 180 185 190  
 Gly Ala Asp Met Leu Ile Tyr Gly Met Gly Glu Lys Pro Ile Cys Glu  
 195 200 205  
 Leu Val Arg Arg Leu Thr Ala Leu Cys Asp Asn Gln Asp Gly Val Ile  
 210 215 220  
 Ser Ser Ser Asp Ile His Ser Pro Ala Leu Ser Ser Ile Pro Gln Thr  
 225 230 235 240  
 Ala Tyr Leu Thr Arg Lys Tyr Glu Ser Asp Glu Asn Asp Ile Thr Leu  
 245 250 255  
 Tyr Ser His Glu Glu Cys Leu Ala Asp Lys Lys Gln Ala Thr Asn  
 260 265 270  
 Phe Arg His Ile Glu Glu Glu Ser Asn Lys Tyr Ala Ala Ala Arg Ile  
 275 280 285  
 Val Gln Ala Val Asp Gly Lys Thr Val Val Val Asn Pro Pro Tyr Pro  
 290 295 300  
 Pro Met Thr Glu Lys Glu Leu Asp Arg Ser Phe Asp Leu Pro Tyr Thr  
 305 310 315 320  
 Arg Leu Pro His Pro Lys Tyr Lys Gly Lys Arg Ile Pro Ala Tyr Asp  
 325 330 335  
 Met Ile Lys Phe Ser Val Asn Ile His Arg Gly Cys Phe Gly Gly Cys  
 340 345 350  
 Ala Phe Cys Thr Ile Ser Ala His Gln Gly Lys Phe Ile Val Ser Arg  
 355 360 365  
 Ser Lys Glu Ser Ile Leu Lys Glu Val Lys Glu Val Val Gln Leu Pro  
 370 375 380  
 Asp Phe Lys Gly Asn Leu Ser Asp Leu Gly Gly Pro Ser Ala Asn Met  
 385 390 395 400  
 Tyr Lys Met Gly Gly Lys Asp Leu Ser Leu Cys Lys Arg Cys Lys Arg  
 405 410 415  
 Pro Ser Cys Ile His Pro Lys Val Cys Pro Asn Leu Asn Thr Asp His  
 420 425 430  
 Arg Pro Leu Leu Asp Ile Tyr Tyr Ala Val Asp Ser Leu Pro Glu Ile  
 435 440 445  
 Lys Arg Ser Phe Ile Gly Ser Gly Val Arg Tyr Asp Leu Leu Leu His  
 450 455 460

Gln Ser Lys Asp Ala Thr Val Asn Lys Ile Thr Ala Glu Tyr Thr Arg  
 465 470 475 480  
 Glu Leu Ile Ala Arg His Val Ser Gly Arg Leu Lys Val Ala Pro Glu  
 485 490 495  
 His Thr Ser Asp Arg Val Leu Ser Ile Met Arg Lys Pro Ala Phe Ser  
 500 505 510  
 Gln Phe Gly Glu Phe Lys Lys Ile Phe Asp Arg Ile Asn Arg Glu Leu  
 515 520 525  
 Gly Leu Arg Gln Gln Leu Ile Pro Tyr Phe Ile Ser Ser His Pro Gly  
 530 535 540  
 Cys Lys Glu Glu Asp Met Ala Glu Leu Ala Val Ile Thr Lys Gln Leu  
 545 550 555 560  
 Asp Phe His Leu Glu Gln Val Gln Asp Phe Thr Pro Thr Pro Met Thr  
 565 570 575  
 Val Ala Thr Glu Ala Trp Tyr Thr Gly Phe His Pro Tyr Thr Leu Glu  
 580 585 590  
 Pro Val Phe Ser Ala Lys Thr Gln Arg Glu Lys Leu Ala Gln Arg Gln  
 595 600 605  
 Phe Phe Phe Trp Tyr Lys Pro Glu Glu Arg Arg Asn Ile Ile Asn Glu  
 610 615 620  
 Leu Arg Arg Ile Gly Arg Ala Asp Leu Ile Asp Lys Leu Tyr Gly Lys  
 625 630 635 640  
 Arg Lys

&lt;210&gt; 6386

&lt;211&gt; 226

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6386

Leu Pro Val Leu Lys Gln Ser Asn Met Glu Lys His Asn Pro Ser Ser  
 1 5 10 15  
 Phe Thr Val Asp Ser Ser Ser Pro Ala His Arg Ser Ser Phe Ala Val  
 20 25 30  
 His Asp Leu Thr Pro Tyr Ile Asn Trp Ile Tyr Phe Phe His Ala Trp  
 35 40 45  
 Gly Phe Gln Pro Arg Tyr Ala Ala Ala Asn Ile His Gly Cys Asp  
 50 55 60  
 Ser Cys Arg Ala Ile Trp Leu Thr Thr Phe Pro Glu Glu Glu Arg Ser  
 65 70 75 80  
 Lys Ala Ser Glu Ala Met Gln Leu Tyr Lys Glu Ala Asn Arg Met Leu  
 85 90 95  
 Asn Glu Leu Asp Arg Asn Phe Glu Val Lys Thr Ile Phe Lys Leu Cys  
 100 105 110  
 Pro Ala Asn Ala Asp Gly Asp Asn Leu Ile Ile Asn Gly Ile Thr Phe  
 115 120 125  
 Pro Leu Leu Arg Gln Gln Val Lys Lys Lys Glu Asn Glu Pro Phe Leu  
 130 135 140  
 Cys Leu Ser Asp Phe Val Arg Pro Leu Ser Ser Gly Ile Thr Asp Val  
 145 150 155 160  
 Val Gly Ala Phe Ala Ser Ser Ile Asp Ala Asp Met Glu Gly Leu Tyr  
 165 170 175  
 Glu Lys Asp Pro Tyr Lys His Leu Leu Val Gln Thr Leu Ser Asp Arg  
 180 185 190  
 Leu Ala Glu Ala Ala Thr Glu Lys Met His Glu Tyr Val Arg Lys Glu  
 195 200 205  
 Ala Trp Gly Tyr Ala Lys Asp Glu Asn Leu Ser Ile Pro Asp Val Phe  
 210 215 220

Asn Thr  
225

<210> 6387

<211> 135

<212> PRT

<213> B.fragilis

<400> 6387

Ala Val Gly Ser Arg Arg Gln Cys Leu Pro Val Ser Lys Val Thr Leu  
1 5 10 15

His Arg Tyr Ile His Phe Ala Phe Ile Glu Asp Ala Ala Leu Arg Thr  
20 25 30

Ile Thr Glu Glu Gln His Ala Val Gly Gly Asn Ser Asn Ala Tyr His  
35 40 45

Arg Ile Asn Val Gly Ile Leu Ile Val Asp Ser Phe His Ser Gln Thr  
50 55 60

Phe Ser Asp Tyr Ile Thr Thr Gly Ile Asp Asp Gly Asp Ile Phe Arg  
65 70 75 80

Met Arg His Tyr Met Ile Lys Val Thr Asp Thr Tyr Leu Ile Glu Gln  
85 90 95

Asp Ala Glu Asn Lys Tyr Ser Arg Arg Gln Tyr Val Ile Lys Tyr Lys  
100 105 110

Tyr Gly Ser Pro Gly Glu Gly Met Cys Tyr Gln Asn Arg Gln Ala Asp  
115 120 125

Asp Ser Lys Met Glu Asn Thr  
130 135

<210> 6388

<211> 263

<212> PRT

<213> B.fragilis

<400> 6388

Ser Leu Pro Ser Leu Arg Asn Asn Lys Lys Asn Lys Lys Ile Gly Arg  
1 5 10 15

Met Val Ser Ala Asn Pro Tyr Asn Arg Tyr Ile Cys Phe Gln Ile Arg  
20 25 30

Arg Leu Arg Tyr Met Glu Thr Met Phe Asp Thr Leu Leu Gln Leu Pro  
35 40 45

Leu Phe Gln Gly Leu Cys His Glu Asp Phe Thr Asn Ile Leu Glu Lys  
50 55 60

Val Lys Leu His Phe Thr Arg His Lys Pro Gly Glu Pro Leu Ile Lys  
65 70 75 80

Ser Gly Glu Val Cys Asp Gln Leu Leu Phe Leu Leu Lys Gly Arg Leu  
85 90 95

Ser Ser Val Thr Val Ser Glu Asp Asp Thr Leu Thr Val Ile Glu Tyr  
100 105 110

Phe Glu Ala Pro Ala Val Leu Glu Pro Tyr Ser Met Phe Gly Met Asn  
115 120 125

Thr Arg Tyr Ile Ser Ser Tyr Ile Pro His Asn Glu Glu Ala Gln Met  
130 135 140

Val Ser Ile Ser Lys Ser Phe Val Met Gly Glu Leu Phe Lys Tyr Asp  
145 150 155 160

Ile Phe Arg Leu Asn Tyr Met Asn Ile Val Ser Asn Arg Ala Gln Asn  
165 170 175

Leu Tyr Thr Arg Leu Trp Asp Lys Ala Pro Lys Asp Ile Glu Asp Lys  
180 185 190

Ile Ile Arg Phe Ile Leu Gly His Ile Glu Arg Met Thr Gly Glu Lys

195	200	205
Leu Phe Lys Val Lys Met Asp Asp Leu Ala Arg Met	Leu Asp Asp Thr	
210	215	220
Arg Leu Asn Val Ser Lys Ala Leu Asn Gly Leu Gln Glu Leu Asn Leu		
225	230	235
Leu Glu Leu His Arg Lys Glu Ile Arg Ile Pro Asp Leu Ser Leu Leu		240
245	250	255
Thr Glu Trp Asn Glu Lys Arg		
260		

&lt;210&gt; 6389

&lt;211&gt; 417

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6389

Leu Ile Trp Phe His Tyr Glu Thr Asp Glu Leu Tyr Ile Cys Arg Leu		
1	5	10
Asn Leu Lys Ile Glu Pro Tyr Met Lys Tyr Asn Phe Asp Glu Val Ile		15
20	25	30
Glu Arg Arg Gly Thr Asp Ser Val Lys Tyr Asp Ala Val Ser Glu Arg		
35	40	45
Trp Gly Arg Ser Asp Leu Leu Pro Met Trp Val Ala Asp Met Asp Phe		
50	55	60
Arg Thr Pro Pro Phe Val Ile Glu Ala Ile Arg Arg Arg Leu Asp His		
65	70	75
Glu Val Leu Gly Tyr Thr Phe Ala Cys Glu Ala Trp Tyr Thr Ser Ile		80
85	90	95
Ile Asn Trp Gln Lys Glu Arg His Gly Trp Asn Val Thr Arg Glu Met		
100	105	110
Leu Thr Phe Thr Pro Gly Ile Val Arg Gly Leu Ala Phe Ala Leu Gln		
115	120	125
Cys Phe Thr Ala Pro Gly Asp Lys Val Met Val Met Pro Pro Val Tyr		
130	135	140
His Pro Phe Phe Leu Val Thr Glu His Asn His Arg Glu Val Val Tyr		
145	150	155
Ser Pro Leu Leu Leu Lys Asp Gly Gln Tyr Gln Ile Asp Phe Glu Arg		160
165	170	175
Phe Arg Ala Asp Val Lys Gly Cys Lys Met Leu Ile Leu Ser Asn Pro		
180	185	190
His Asn Pro Gly Gly Arg Val Trp Thr Arg Glu Glu Leu Ala Glu Ile		
195	200	205
Ala Glu Ile Cys Phe Asp Asn Gln Val Leu Val Ile Ser Asp Glu Ile		
210	215	220
His Ala Asp Leu Thr Leu Pro Gly Tyr Thr His Pro Thr Phe Ala Leu		
225	230	235
Val Ser Glu Lys Ala Arg Arg Asn Ser Leu Val Phe Met Ser Pro Ser		240
245	250	255
Lys Ala Phe Asn Met Pro Gly Leu Ala Ser Ser Tyr Cys Ile Ile Glu		
260	265	270
Asp Glu Ala Ile Arg His Arg Phe Gln Thr Tyr Met Glu Ala Ser Glu		
275	280	285
Phe Ser Glu Gly His Leu Phe Ala Tyr Leu Gly Val Ala Ala Ala Tyr		
290	295	300
Ser Asn Gly Thr Glu Trp Leu Asp Gln Ala Leu Glu Tyr Ile Gln Glu		
305	310	315
Asn Ile Asp Phe Thr Asp Glu Tyr Leu Lys Thr His Ile Pro Ala Ile		320
325	330	335
Arg Met Ile Arg Pro Gln Ala Ser Tyr Leu Ile Phe Leu Asp Cys Arg		

340	345	350
Gly Met Gly Val Ser Gln Lys Glu Leu Val Asp Phe Phe Val Asp Gly		
355	360	365
Ala His Leu Ala Leu Asn Asp Gly Ala Met Phe Gly Lys Glu Gly Glu		
370	375	380
Gly Phe Met Arg Leu Asn Val Ala Cys Pro Arg Ser Val Leu Arg Gln		
385	390	395
Ala Leu Asp Gln Ile Lys Glu Ala Tyr Glu Leu Lys His Asp Thr Ile		
405	410	415

Ala

<210> 6390

<211> 862

<212> PRT

<213> B.fragilis

<400> 6390

Ser Pro Ile Thr Leu Asp Phe Leu Ser Phe Ile Thr Asn Phe Val Ile			
1	5	10	15
Thr Ile Asn Leu Thr Thr Ser Ala Ile Met Lys Lys Gly Phe Lys Ile			
20	25	30	
Thr Ala Ile Val Ile Gly Val Ile Leu Ile Leu Met Phe Leu Leu Pro			
35	40	45	
Phe Ala Phe Arg Gly Lys Ile Glu Gly Ile Val Lys Ser Glu Gly Asn			
50	55	60	
Lys Met Leu Asn Gly His Phe Asp Phe Ser Ser Leu Asp Ile Ser Leu			
65	70	75	80
Phe Arg Asn Phe Pro Lys Ala Ser Val Thr Leu Asn Asp Phe Trp Leu			
85	90	95	
Lys Gly Thr Gly Glu Phe Glu Asn Asp Thr Leu Val Lys Ala Gly Glu			
100	105	110	
Val Thr Ala Ala Ile Asn Leu Phe Ser Leu Phe Gly Asp Asp Gly Tyr			
115	120	125	
Asp Val Ser Lys Val Ser Val Glu Asn Thr Arg Leu His Ala Ile Val			
130	135	140	
Leu Pro Asp Gly Lys Ala Asn Trp Asp Ile Met Lys Pro Asp Ser Ser			
145	150	155	160
Thr Ala Ser Glu Thr Gln Glu Ser Gly Glu Ser Ser Thr Phe Arg Ile			
165	170	175	
Lys Leu Gln Arg Phe Val Ile Lys Asn Met Asn Val Val Tyr Asp Asp			
180	185	190	
Arg Gln Ser Ala Met Tyr Ala Asp Ile His Asn Phe Asn Ala Leu Cys			
195	200	205	
Ser Gly Asp Leu Gly Ser Asp Gln Thr Leu Leu Ser Leu Glu Ala Glu			
210	215	220	
Thr Glu Ala Leu Thr Tyr Lys Met Asn Gly Ile Pro Phe Leu Ser Gln			
225	230	235	240
Ala Asn Val Tyr Ala Lys Met Asp Val Asp Ala Asp Leu Ala His Asn			
245	250	255	
Lys Phe Thr Leu Lys Lys Asn Glu Phe Arg Leu Asn Ala Ile Lys Ala			
260	265	270	
Gly Ile Asp Gly Trp Ile Glu Leu Lys Asp Pro Ala Ile Asp Met Asp			
275	280	285	
Leu Lys Leu Asn Thr Ser Glu Ile Gly Phe Lys Glu Ile Leu Ser Leu			
290	295	300	
Ile Pro Ala Ile Tyr Ser Lys Glu Phe Lys Asn Leu Lys Thr Asp Gly			
305	310	315	320
Thr Ala Thr Leu Glu Ala Thr Ala Lys Gly Ile Leu Gln Gly Asp Thr			

	325	330	335
Val Pro Gln Phe Asp Val Arg Leu Ala Val Lys Asn Ala Met Phe Arg	340	345	350
Tyr Pro Ser Leu Pro Ala Gly Val Asp Gln Ile Asn Ile Asp Ala Gln	355	360	365
Val Arg Asn Pro Gly Gly Asn Ile Asp Leu Thr Glu Ile Ser Ile His	370	375	380
Pro Phe Ser Phe Arg Leu Ala Glu Asn Pro Phe Ser Leu Thr Ala Asp	385	390	395
Ile Lys Thr Pro Val Ser Asp Pro Asp Phe Thr Ala Glu Ala Lys Gly	405	410	415
Val Leu Asn Leu Gly Met Ile Lys Gln Val Tyr Pro Leu Asp Asp Met	420	425	430
Glu Leu Asn Gly Thr Val Arg Ala Asp Met Thr Met Ala Gly His Leu	435	440	445
Ser Tyr Ile Glu Lys Glu Gln Tyr Asp Arg Phe Ser Ala Ser Gly Thr	450	455	460
Ile Ala Leu Ser Asp Met Asn Leu Lys Met Lys Glu Met Pro Asp Ile	465	470	475
Glu Ile Lys Lys Ser Leu Phe Thr Phe Thr Pro Lys Tyr Leu Gln Leu	485	490	495
Ser Glu Thr Thr Val Ala Ile Gly Lys Asn Asp Leu Thr Ala Asp Cys	500	505	510
Arg Phe Glu Asn Tyr Met Gly Tyr Ala Leu Lys Gly Gly Thr Leu Lys	515	520	525
Gly Thr Leu Asn Val Arg Ser Asn His Leu Asn Leu Asn Asp Phe Met	530	535	540
Thr Ala Thr Thr Asp Ser Ala Ala Gln Thr Ser Gln Ala Ser Ser Thr	545	550	555
Glu Glu Thr Ala Ser Met Ile Glu Val Pro Gln Asn Ile Asp Phe Gln	565	570	575
Met Asp Ala Gly Leu Lys Glu Val Leu Phe Asp Lys Met Thr Phe Thr	580	585	590
Asn Met Asn Gly Lys Leu Ile Val Lys Asp Gly Lys Val Asp Met Thr	595	600	605
Asn Leu Ser Met Asn Thr Met Gly Gly Ser Val Val Met Asn Gly Tyr	610	615	620
Tyr Ser Thr Ala Asp Pro Lys Lys Pro Glu Met Asn Ala Gly Phe Arg	625	630	635
Met Glu Asn Ile Gly Phe Ala Gln Ala Tyr Lys Ala Leu Asp Met Val	645	650	655
Gln Gln Met Ala Pro Ile Phe Glu Asn Leu Lys Gly Asn Phe Ser Gly	660	665	670
Asn Met His Ile Arg Thr Leu Leu Asp Asn Gln Met Ser Pro Val Met	675	680	685
Asp Thr Met Gln Gly Asn Gly Ser Leu Ser Thr Gln Asp Leu Ser Leu	690	695	700
Ser Gly Val Lys Val Ile Asp Gln Ile Ala Glu Ala Val Lys Lys Pro	705	710	715
Glu Leu Lys Glu Met Lys Val Lys Asp Met Ala Leu Asp Phe Thr Ile	725	730	735
Lys Asp Gly Arg Val Ser Thr Lys Pro Phe Asp Ile Lys Leu Gly Asp	740	745	750
Tyr Val Met Asn Leu Ser Gly Ser Thr Gly Leu Asp Gln Thr Ile Asp	755	760	765
Tyr Ser Gly Lys Ile Lys Leu Pro Ala Ser Ala Gly Asp Ile Ala Lys	770	775	780
Leu Thr Thr Leu Asp Leu Lys Ile Gly Gly Thr Phe Ser Ser Pro Lys	785	790	795
			800

Val Ser Leu Asp Thr Lys Ser Met Thr Asn Gln Ala Val Glu Ala Val  
 805 810 815  
 Thr Asp Lys Ala Ile Ser Glu Ile Gly Lys Lys Leu Gly Leu Asp Ser  
 820 825 830  
 Ala Thr Thr Ala Asn Lys Asp Ser Val Lys Glu Lys Val Lys Glu Lys  
 835 840 845  
 Ala Val Glu Lys Ala Leu Asp Phe Leu Lys Lys Lys Ile Lys  
 850 855 860

&lt;210&gt; 6391

&lt;211&gt; 368

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6391

Met Glu Lys Thr Lys Arg Asp Ser Arg His Ile Asp Pro Leu Lys Asp  
 1 5 10 15  
 Glu Glu Lys Phe Phe Gln Trp Leu Lys Phe Lys Ser Val Arg Met Asn  
 20 25 30  
 Gln Glu His Leu Ser Lys Asp Asp Tyr Glu Arg Leu Arg Gln Arg Ile  
 35 40 45  
 His Val Ser Leu Arg Met Leu Arg Arg Lys Arg Thr Val Arg Arg Val  
 50 55 60  
 Ala Tyr Tyr Gly Val Ser Val Cys Val Ile Ile Ala Leu Gly Ile Val  
 65 70 75 80  
 Ala Tyr Leu Asn His Tyr Glu Arg Val Glu Pro Val Pro Ser Val Val  
 85 90 95  
 Glu Lys Lys Ala Glu Ile Val Trp Gln Pro Leu Lys Ser Glu Asp Ile  
 100 105 110  
 Arg Leu Val Ser Gly Asp Ser Ile Thr Ser Phe Arg Gln Asn Val Gln  
 115 120 125  
 Leu Leu Leu Ser Lys Asp Gly Ser Ala Met Val Tyr His Pro Asn Ser  
 130 135 140  
 Gly Gln Lys Arg Ile Arg Met Glu Gln Asp Glu Val Asn Glu Leu Val  
 145 150 155 160  
 Val Pro Tyr Gly Lys Arg Ser Lys Val Lys Leu Glu Asp Gly Thr Glu  
 165 170 175  
 Ile Trp Leu Asn Ser Gly Ser Val Leu Lys Phe Pro Thr His Phe Ser  
 180 185 190  
 Gly Glu Lys Arg Glu Val Ser Leu Lys Gly Glu Met Tyr Ala Glu Val  
 195 200 205  
 Thr Ala Asp Ser Lys Lys Pro Phe Ile Val His Thr Ala His Phe Asp  
 210 215 220  
 Ile Gln Val Tyr Gly Thr Arg Phe Asn Ile Ser Ala Tyr Glu Asp Glu  
 225 230 235 240  
 Pro Thr Pro Ser Cys Val Leu Val Asp Gly Ile Val Gly Phe Arg Pro  
 245 250 255  
 Glu Ser Gly Pro Glu Ile Arg Met Lys Thr Asn Glu Lys Val Leu Tyr  
 260 265 270  
 Asp Gly Lys Arg Phe Glu Lys Arg Lys Val Ser Ala Ser Arg Tyr Thr  
 275 280 285  
 Cys Trp Lys Glu Gly Tyr Leu Glu Leu Asp Asp Ala Asn Ile Met Asp  
 290 295 300  
 Val Leu Asn Arg Ile Gly Arg Tyr Tyr Asn Leu Ser Phe Ser Phe Gly  
 305 310 315 320  
 Asp Lys Lys Arg Leu Thr Gly Arg Lys Cys Ser Gly Lys Ile Tyr Leu  
 325 330 335  
 Ser Asp Asn Ile Asp Asn Val Leu Thr Thr Ile Ser Leu Leu Tyr Ser  
 340 345 350

Thr Asp Tyr Arg Lys Glu Glu Arg Thr Ile Phe Ile Ser Glu Asn Pro  
 355                   360                   365

<210> 6392

<211> 313

<212> PRT

<213> B.fragilis

<400> 6392

Tyr Ser Met Thr Lys Pro Ala Pro Thr Pro Leu Tyr Asn Glu Phe Thr  
 1               5                   10                   15

Phe Phe Leu Lys Lys Tyr Phe Pro Tyr Lys Val Gln Lys Ile Ser Leu  
 20               25                   30

Asn Ala Gly Phe Thr Cys Pro Asn Arg Asp Gly Thr Lys Gly Leu Gly  
 35               40                   45

Gly Cys Thr Tyr Cys Asn Asn Gln Thr Phe Asn Pro Glu Tyr Cys Lys  
 50               55                   60

Thr Glu Lys Ser Val Thr Arg Gln Leu Glu Glu Gly Lys Gln Phe Phe  
 65               70                   75                   80

Ala His Lys Tyr Pro Asp Met Lys Tyr Leu Ala Tyr Phe Gln Ala Tyr  
 85               90                   95

Thr Asn Thr Tyr Ala Glu Leu Glu Gly Leu Lys Gly Lys Tyr Glu Glu  
 100               105                   110

Ala Leu Ser Val Asp Gly Val Val Gly Leu Val Ile Gly Thr Arg Pro  
 115               120                   125

Asp Cys Met Pro Asp Pro Leu Leu Arg Tyr Leu Glu Glu Leu Asn Lys  
 130               135                   140

His Thr Phe Leu Leu Val Glu Tyr Gly Ile Glu Thr Thr Arg Asp Val  
 145               150                   155                   160

Thr Leu Lys Arg Ile Asn Arg Gly His Thr Tyr Ala Asp Thr Val Glu  
 165               170                   175

Thr Val Asn Arg Thr Ala Ala Cys Gly Ile Leu Thr Gly Gly His Val  
 180               185                   190

Ile Leu Gly Leu Pro Gly Glu Thr His Asp Glu Ile Ile Ala Gln Ala  
 195               200                   205

Ala Glu Leu Ser Arg Leu Pro Leu Thr Thr Leu Lys Met His Gln Leu  
 210               215                   220

Gln Leu Ile Arg Gly Thr Lys Met Ala Arg Glu Phe Glu Cys Arg Pro  
 225               230                   235                   240

Glu Asp Phe His Leu Phe Ser Val Asp Glu Tyr Ile Asp Leu Val Ile  
 245               250                   255

Asp Tyr Val Glu His Leu Arg Pro Asp Leu Ile Leu Glu Arg Phe Val  
 260               265                   270

Ser Gln Ser Pro Lys Glu Leu Leu Ile Ala Pro Asp Trp Gly Leu Lys  
 275               280                   285

Asn Tyr Glu Phe Thr Ala Arg Val Gln Lys Arg Met Lys Glu Arg Gly  
 290               295                   300

Ala Tyr Gln Gly Lys Ala Tyr Leu Val  
 305               310

<210> 6393

<211> 292

<212> PRT

<213> B.fragilis

<400> 6393

Lys Gln Tyr Tyr Met Gly Asn Asp Lys Arg Val Arg Lys Pro Glu Trp  
 1               5                   10                   15

Leu Lys Ile Ser Ile Gly Ala Asn Glu Arg Tyr Thr Glu Thr Lys Arg

20	25	30
Ile Val Glu Ser His Cys Leu His Thr Ile Cys Ser Ser Gly Arg Cys		
35	40	45
Pro Asn Met Gly Glu Cys Trp Gly Lys Gly Thr Ala Thr Phe Met Ile		
50	55	60
Ala Gly Asp Ile Cys Thr Arg Ser Cys Lys Phe Cys Asn Thr Gln Thr		
65	70	75
Gly Arg Pro Leu Pro Leu Asp Pro Asp Glu Pro Ala His Val Ala Glu		
85	90	95
Ser Ile Ala Leu Met Lys Leu Ser His Ala Val Ile Thr Ser Val Asp		
100	105	110
Arg Asp Asp Leu Pro Asp Leu Gly Ala Ala His Trp Ala Gln Thr Ile		
115	120	125
Arg Glu Ile Lys Arg Leu Asn Pro Glu Thr Thr Glu Val Leu Ile		
130	135	140
Pro Asp Phe Gln Gly Arg Lys Glu Leu Ile Asp Gln Val Ile Lys Ala		
145	150	155
Cys Pro Glu Ile Ile Ser His Asn Met Glu Thr Val Lys Arg Ile Ser		
165	170	175
Pro Gln Val Arg Ser Ala Ala Asn Tyr His Thr Ser Leu Glu Val Ile		
180	185	190
Arg Gln Ile Ala Glu Ser Gly Ile Thr Ala Lys Ser Gly Ile Met Val		
195	200	205
Gly Leu Gly Glu Thr Pro Ala Glu Val Glu Glu Leu Met Asp Asp Leu		
210	215	220
Ile Ser Val Gly Cys Lys Ile Leu Thr Ile Gly Gln Tyr Leu Gln Pro		
225	230	235
Thr His Lys His Phe Pro Val Ala Ala Tyr Ile Thr Pro Glu Gln Phe		
245	250	255
Ala Val Tyr Lys Glu Thr Gly Leu Lys Gly Phe Glu Gln Val Glu		
260	265	270
Ser Ala Pro Leu Val Arg Ser Ser Tyr His Ala Glu Lys His Ile Arg		
275	280	285
Phe Asn Asn Lys		
290		

&lt;210&gt; 6394

&lt;211&gt; 149

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6394

Gln Leu Glu Gln Ser Met Lys Arg Glu Arg Ile Val Arg Thr Glu Asn		
1	5	10
Ile Asp Arg Gln Arg Ile Lys Tyr Arg Val Leu Phe Gly Phe Ile Phe		
20	25	30
Ile Met Cys Cys Asn Gly Ala Ala Leu Pro Ser Glu Asp Gly Lys Met		
35	40	45
Pro Asp Trp Lys Phe Ser Phe Ser Leu Lys Arg Ile Pro Met Ile Arg		
50	55	60
Ile Phe Asp Glu Ile Glu Gln Lys Ser Asp Phe Val Phe Ala Trp Ser		
65	70	75
Cys Asp Ile Asp Asn Glu Ile His Glu Glu Ile Ser Ile Cys Val Thr		
85	90	95
Glu Glu Pro Ile Gln Lys Val Met Glu Lys Val Leu Lys Gly Ser Gly		
100	105	110
Leu Val Tyr Gln Arg Leu Asp Arg Gln Ile Val Val Tyr Arg Leu Leu		
115	120	125
Gly His Asn Ala Cys Arg Val Asp Ser Val Arg Val Met Thr Asn Met		

130  
Glu Gln Asn Asp Arg  
145

135

140

<210> 6395  
<211> 364  
<212> PRT  
<213> B.fragilis

<400> 6395  
 Val Cys Val Gln Trp Leu Leu Thr Lys Arg Gly Trp Thr Asn Ile Lys  
 1               5               10               15  
 Thr Lys Thr Val Ile Ser Phe Thr Val Lys Val Met Lys Ile Arg Lys  
 20               25               30  
 Asp Asp Ile Leu Leu Ile Leu Ser Leu Leu Phe Ala Asp Cys Arg  
 35               40               45  
 Val Gly Lys Ala Glu Pro Val Ala Asp Pro Met Glu Glu Glu Gly Ile  
 50               55               60  
 Ser Val Val Arg Tyr Asp Lys Leu Leu Asp Glu Tyr Val Arg Phe Asn  
 65               70               75               80  
 Ser Phe Ser Ala Leu Gln Lys Met Asn Leu Glu Tyr Ala Leu Pro Thr  
 85               90               95  
 Lys Leu Leu Ile Glu Asp Val Leu Ala Ile Gly Gln Val Ser Asp Asp  
 100              105              110  
 His Ile Phe Gln Arg Leu Lys Thr Phe Tyr Ser Asp Thr Thr Leu Val  
 115              120              125  
 Arg Leu Ile Glu Asp Val Glu Ala Lys Tyr Pro Glu Leu Glu Ser Val  
 130              135              140  
 Glu Lys Asn Leu Thr Lys Gly Phe Gly Lys Leu Gln Lys Glu Ile Pro  
 145              150              155              160  
 Asp Ile Met Ile Pro Met Ile Tyr Thr Gln Ile Ser Ala Phe Asn Glu  
 165              170              175  
 Ser Ile Val Leu Ser Asp Ser Val Leu Gly Ile Ser Leu Asp Lys Tyr  
 180              185              190  
 Met Gly Glu Asp Tyr Pro Leu Tyr Lys Arg Phe Tyr Tyr Asn Tyr Gln  
 195              200              205  
 Arg Arg Thr Met Arg Pro Asp Arg Ile Val Pro Asp Cys Leu Val Phe  
 210              215              220  
 Tyr Leu Met Ser Gln Tyr Pro Phe Pro Met Asp Tyr Ser Arg Thr Leu  
 225              230              235              240  
 Leu Asp Val Met Met His Tyr Gly Lys Ile Asn Tyr Val Val Gln His  
 245              250              255  
 Leu Leu Asp Tyr Ser Ser Ser Glu Glu Ala Leu Gly Tyr Ser Asp Leu  
 260              265              270  
 Glu Arg Glu Trp Cys Lys Glu Asn Gln Gln Met Trp Arg Tyr Ile  
 275              280              285  
 Leu Glu Gln Asp His Leu His Ala Thr Asp Pro Met Val Val Arg Gln  
 290              295              300  
 Tyr Thr Arg Pro Ala Pro Phe Thr Asn Thr Leu Gly Glu Asn Ala Pro  
 305              310              315              320  
 Ser Met Val Gly Thr Trp Ile Gly Thr Lys Ile Ile Thr Ser Tyr Met  
 325              330              335  
 Lys His His Lys Lys Thr Thr Leu Arg Gln Leu Leu Glu Met Ser Asp  
 340              345              350  
 Tyr Glu Arg Met Phe Thr Glu Ser Arg Phe Asn Pro  
 355              360

<210> 6396  
<211> 85

<212> PRT  
<213> B.fragilis

&lt;400&gt; 6396

Tyr	Arg	His	Lys	Asn	Lys	Glu	Glu	Asp	Arg	Pro	Glu	Glu	Leu	Leu	Ala
1						5				10					15
Tyr	Pro	Leu	Leu	Phe	Ile	Ser	Leu	Thr	Arg	Lys	Ser	Val	Glu	Glu	Leu
								20		25					30
Ile	Phe	Gln	Thr	Val	Phe	Asp	Pro	Phe	His	Cys	Phe	Leu	Thr	Phe	Phe
							35		40					45	
Ser	Ser	Leu	Leu	Arg	Thr	Phe	Phe	Tyr	Val	Phe	Gly	Cys	Ile	Phe	Gly
							50		55					60	
Cys	Ile	Phe	Asp	Phe	Leu	Lys	Cys	Ile	Phe	Gly	Ala	Phe	Phe	His	Val
						65			70		75			80	
Ile	Ser	Tyr	Phe	Leu											
					85										

&lt;210&gt; 6397

<211> 904  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6397

Cys	Met	Thr	Lys	Lys	Ile	Asn	Leu	Phe	Pro	Ser	Leu	Ile	Arg	Phe	Arg
1								5		10					15
Glu	Thr	Asn	Arg	Leu	Lys	Met	Ala	Ile	Ala	Ala	Ser	Ile	Met	Leu	Trp
								20		25				30	
Cys	Met	Ala	Pro	Gln	Gln	Ala	Val	Ala	Asp	Thr	Tyr	Glu	Lys	His	Glu
							35		40				45		
Val	Ala	Ser	Ile	Gln	Gln	Gln	Lys	Val	Lys	Ala	Asn	Gly	Thr	Val	Val
							50		55				60		
Asp	Gln	Thr	Gly	Glu	Pro	Leu	Ile	Gly	Val	Ser	Val	Lys	Val	Lys	Asp
							65		70		75		80		
Ala	Pro	Asn	Gly	Thr	Ile	Thr	Asn	Leu	Asp	Gly	Lys	Phe	Ser	Ile	Asp
							85			90			95		
Val	Ala	Lys	Gly	Ala	Thr	Leu	Glu	Ile	Ser	Tyr	Val	Gly	Tyr	Lys	Thr
							100		105				110		
Val	Ile	Val	Lys	Ala	Glu	Ser	Thr	Pro	Met	His	Ile	Val	Leu	Lys	Glu
							115		120				125		
Asp	Ser	Glu	Met	Ile	Asp	Glu	Val	Val	Val	Gly	Tyr	Gly	Ser	Gln	
							130		135				140		
Lys	Lys	Val	Asn	Val	Thr	Gly	Ala	Val	Gly	Met	Val	Asn	Ser	Glu	Val
							145		150		155			160	
Leu	Glu	Ala	Arg	Pro	Val	Gln	Asn	Val	Ser	Gln	Ala	Leu	Gln	Gly	Val
							165		170				175		
Val	Pro	Gly	Leu	Asn	Leu	Ser	Val	Asn	Asn	Gly	Gly	Gly	Ser	Leu	Asp
							180		185				190		
Ser	Glu	Met	Ser	Ile	Asn	Ile	Arg	Gly	Thr	Gly	Thr	Ile	Gly	Asp	Gly
							195		200				205		
Ser	Gly	Ser	Ser	Pro	Leu	Val	Leu	Ile	Asp	Gly	Ile	Glu	Gly	Ser	Leu
							210		215				220		
Asn	Thr	Val	Asn	Pro	Asn	Asp	Ile	Glu	Ser	Val	Ser	Val	Leu	Lys	Asp
							225		230		235			240	
Ala	Ala	Ser	Ala	Ser	Ile	Tyr	Gly	Ala	Arg	Ala	Ala	Phe	Gly	Val	Val
							245			250			255		
Leu	Val	Lys	Thr	Lys	Ser	Gly	Gln	Ser	Gly	Lys	Pro	Arg	Val	Thr	Tyr
							260		265				270		
Ser	Gly	Asn	Val	Arg	Phe	Ser	Asp	Ala	Thr	Asn	Ile	Pro	Glu	Met	Leu
							275		280				285		

Asp Ser Tyr Thr Phe Ala Gln Tyr Phe Asn Arg Ala Ala Ala Asn Asp  
 290 295 300  
 Asn Gly Gly Thr Val Phe Ser Lys Glu Gln Leu Glu Arg Ile Lys Ala  
 305 310 315 320  
 Tyr Gln Asp Gly Thr Leu Lys Ser Ser Ala Thr Phe Asn Glu Gln Ser  
 325 330 335  
 Arg Arg Trp Asn Tyr Tyr Thr Gly Ser Asn Ala Asn Thr Asp Trp Phe  
 340 345 350  
 Lys Glu Val Tyr Glu Asp Trp Val Pro Ser Met Asp His Asn Leu Ser  
 355 360 365  
 Ile Ser Gly Gly Thr Asp Lys Thr Gln Tyr Ile Val Ser Gly Ser Phe  
 370 375 380  
 Leu Asp Gln Lys Gly Leu Ile Arg His Gly Lys Asp Thr Phe Gln Arg  
 385 390 395 400  
 Tyr Thr Leu Asn Gly Arg Ile Thr Ser Asn Ile Thr Asp Trp Phe Thr  
 405 410 415  
 Leu Gly Tyr Ser Thr Lys Trp Thr Arg Glu Asp Tyr Asp Arg Pro Ser  
 420 425 430  
 Tyr Leu Thr Gly Leu Phe Phe His Asn Val Ala Arg Arg Trp Pro Thr  
 435 440 445  
 Val Pro Val Tyr Asp Asp Asn Gly Tyr Leu Thr Glu Pro Ser Glu Leu  
 450 455 460  
 Ile Gln Leu Glu Asp Gly Gly Arg Gln Ile Asn Gln Lys Asp Leu Phe  
 465 470 475 480  
 Thr Gln Gln Leu Gln Leu Thr Phe Glu Pro Ile Lys Asn Trp Lys Ile  
 485 490 495  
 Tyr Val Glu Gly Ser Leu Arg Val Thr Ala Asn Asn Gln His Trp Glu  
 500 505 510  
 Val Leu Pro Val Tyr Gln His Asp Val Asp Gly Asn Pro Val Gly Met  
 515 520 525  
 Thr Trp Asp Ala Gly Val Gly Ser Tyr Pro Val Gly Gly Ser Lys Val  
 530 535 540  
 Ser Glu Tyr Ala Tyr Lys Glu Asn Tyr Tyr Ser Thr Asn Ile Tyr Ser  
 545 550 555 560  
 Asp Tyr Phe Lys Gln Leu Asp Asn Gly His Tyr Phe Lys Ala Met Val  
 565 570 575  
 Gly Phe Asn Ala Glu Leu Tyr Lys Asp Arg Ser Val Ser Ala Asp Lys  
 580 585 590  
 Ser Thr Leu Ile Thr Pro Ser Val Pro Thr Ile Asn Thr Ala Val Gly  
 595 600 605  
 Glu Pro Ser Val Ala Gly Gly Tyr Arg His Thr Ser Val Ala Gly Phe  
 610 615 620  
 Phe Ala Arg Leu Asn Trp Asn Tyr Lys Asp Arg Tyr Met Leu Glu Ala  
 625 630 635 640  
 Asn Gly Arg Tyr Asp Gly Ser Ser Arg Phe Ile Gly Asp Lys Arg Trp  
 645 650 655  
 Gly Phe Phe Pro Ser Phe Ser Gly Gly Trp Asn Ile Ala Arg Glu Ala  
 660 665 670  
 Phe Phe Glu Glu Thr Ala Asn Lys Leu Lys Ile Gly Thr Leu Lys Leu  
 675 680 685  
 Arg Ala Ser Trp Gly Gln Leu Gly Asn Thr Asn Thr Asn Glu Ala Trp  
 690 695 700  
 Tyr Pro Phe Tyr Gln Thr Leu Pro Gln Gly Gln Asn Tyr Gly Trp Leu  
 705 710 715 720  
 Val Asn Gly Val Arg Gln Asn Tyr Ala Ser Asn Pro Gly Ile Val Ser  
 725 730 735  
 Ser Glu Lys Thr Trp Glu Thr Ile Glu Thr Trp Asp Ala Gly Leu Asp  
 740 745 750  
 Trp Gly Leu Phe Asn Asn Arg Leu Thr Gly Ser Phe Asp Tyr Phe Val

755	760	765
Arg Tyr Thr Tyr Asp Met Ile Ala Thr Ala Pro Glu	Leu Pro Ser Ile	
770	775	780
Leu Gly Thr Gly Val Pro Lys Ile Asn Asn Ala Asp	Met Lys Ser Tyr	
785	790	795
Gly Phe Glu Leu Glu Ile Gly Trp Arg Asp Arg Ile	Lys Asn Phe Ser	
805	810	815
Tyr Gly Val Lys Phe Val Leu Ser Asp Ala Gln Gln	Lys Ile Leu Lys	
820	825	830
Tyr Asn Asn Pro Asp Lys Ser Leu Ser Asn Pro Tyr	Tyr Glu Gly Gln	
835	840	845
Lys Leu Gly Glu Ile Trp Gly Tyr Lys Thr Ile Gly	Ile Ala Gln Ser	
850	855	860
Asp Glu Glu Met Asn Leu His Leu Ala Asn Ala Lys	Gln Pro Met Gly	
865	870	875
Gln Lys Trp Ala Ala Gly Asp Ile Met Tyr Ala Asp	Leu Asn Ser	
885	890	895
Gly Ser Val Asp Gln Gly Val Phe		
900		

&lt;210&gt; 6398

&lt;211&gt; 243

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6398

Tyr Met Glu Lys Lys Glu Phe Ser Ser Pro Ala Arg	Arg Tyr Gly Lys	
1 5	10	15
Phe Phe Ile Ala Phe Ile Phe Ile Thr Ala Gly Val	Leu Leu Leu Ala	
20 25	30	
Arg Asn Leu Gly Trp Ile Ser Tyr Thr Leu Phe Gly	Ile Leu Val Ser	
35 40	45	
Trp Gln Met Leu Leu Ile Leu Gly Ile Tyr Leu	Ile Leu Arg Arg	
50 55	60	
Gln Ile Leu Arg Gly Gly Ile Leu Leu Ala Ile Gly	Ala Tyr Leu Ile	
65 70	75	80
Ser Pro Tyr Leu Glu Trp Met Pro Ala Gly Val His	Val Thr Leu Phe	
85 90	95	
Pro Ile Val Leu Ile Val Ile Gly Leu Ala Phe Leu	Phe Arg Pro Lys	
100 105	110	
Arg Ala Arg His Glu Arg Ser His Arg Gly Asn Phe	Ala Ser Ser Gln	
115 120	125	
Tyr Asn Ser Thr Asp Gly Val Leu His Ser Glu Asn	Thr Phe Ser Gly	
130 135	140	
Ile Arg Gln Val Val Leu Asp Glu Val Phe Lys Gly	Gly Thr Ile Gln	
145 150	155	160
Asn Ser Phe Gly Gly Thr Val Ile Asp Leu Arg Arg	Thr Thr Leu Pro	
165 170	175	
Glu Gly Glu Thr Phe Leu Asp Ile Asp Cys Thr Phe	Gly Ile Glu	
180 185	190	
Ile Tyr Val Pro Ser Asp Trp Lys Val Val Phe Arg	Cys Thr Thr Cys	
195 200	205	
Leu Gly Gly Cys Gln Asp Lys Arg Phe Gly Gly Met	Ile Asp Gln	
210 215	220	
Asn Arg Ile Leu Val Ile Arg Gly Asp Leu Thr Phe	Gly Ile Asp	
225 230	235	240
Ile Lys Ser		

<210> 6399  
<211> 274  
<212> PRT  
<213> B.fragilis

<400> 6399

Lys	Gln	Ser	Asn	Met	Arg	Leu	Ile	Ile	Gln	Pro	Asp	Tyr	Gln	Ser	Val
1				5					10					15	
Ser	Gln	Trp	Ala	Ala	His	Tyr	Val	Ala	Ala	Lys	Ile	Lys	Ala	Ala	Asn
					20				25					30	
Pro	Thr	Pro	Glu	Lys	Pro	Phe	Val	Leu	Gly	Cys	Pro	Thr	Gly	Ser	Ser
					35			40				45			
Pro	Leu	Gly	Met	Tyr	Lys	Ala	Leu	Ile	Asp	Leu	Asn	Lys	Lys	Gly	Ile
					50			55			60				
Val	Ser	Phe	Gln	Asn	Val	Val	Thr	Phe	Asn	Met	Asp	Glu	Tyr	Val	Gly
					65			70		75			80		
Leu	Pro	Lys	Glu	His	Pro	Glu	Ser	Tyr	Tyr	Ser	Phe	Met	Trp	Asn	Asn
					85			90			95				
Phe	Phe	Ser	His	Ile	Asp	Ile	Lys	Pro	Glu	Asn	Thr	Asn	Ile	Leu	Asn
					100			105			110				
Gly	Asn	Ala	Ala	Asp	Leu	Asp	Ala	Glu	Cys	Ala	Arg	Tyr	Glu	Glu	Lys
					115			120			125				
Ile	Lys	Ser	Tyr	Gly	Gly	Ile	Asp	Leu	Phe	Met	Gly	Gly	Ile	Gly	Pro
					130			135			140				
Asp	Gly	His	Ile	Ala	Phe	Asn	Glu	Pro	Gly	Ser	Ser	Leu	Ser	Ser	Arg
					145			150		155			160		
Thr	Arg	Gln	Lys	Thr	Leu	Thr	Thr	Asp	Thr	Ile	Ile	Ala	Asn	Ser	Arg
					165			170			175				
Phe	Phe	Asp	Asp	Ile	Asn	Lys	Val	Pro	Lys	Thr	Ser	Leu	Thr	Val	
					180			185			190				
Gly	Val	Gly	Thr	Val	Leu	Ser	Ala	Arg	Glu	Val	Met	Ile	Ile	Val	Asn
					195			200			205				
Gly	His	Asn	Lys	Ala	Arg	Ala	Leu	Tyr	His	Ala	Val	Glu	Gly	Ala	Ile
					210			215			220				
Thr	Gln	Met	Trp	Thr	Ile	Ser	Ala	Leu	Gln	Met	His	Glu	Lys	Gly	Ile
					225			230		235			240		
Ile	Val	Cys	Asp	Asp	Ala	Ala	Thr	Ala	Glu	Leu	Lys	Val	Gly	Thr	Tyr
					245			250			255				
Arg	Tyr	Phe	Lys	Asp	Ile	Glu	Ala	Asp	His	Leu	Asp	Pro	Gln	Ser	Leu
					260			265			270				
Leu Lys															

<210> 6400  
<211> 320  
<212> PRT  
<213> B.fragilis

<400> 6400

Ser	Asn	Ser	Leu	Tyr	Phe	Leu	Trp	Phe	Ser	Ser	Phe	Leu	Cys	Thr	Leu
1				5					10				15		
Phe	Val	Leu	Leu	Cys	Arg	Lys	Ser	Ile	Ser	Leu	Gln	Pro	Asn	Leu	Thr
					20			25			30				
Leu	Lys	Gly	Met	Ser	Tyr	Asn	Leu	Leu	Lys	Gly	Lys	Arg	Gly	Ile	Ile
					35			40			45				
Phe	Gly	Ala	Leu	Asn	Glu	Gln	Ser	Ile	Ala	Trp	Lys	Val	Ala	Glu	Arg
					50			55			60				
Ala	Val	Glu	Glu	Gly	Ala	Val	Ile	Thr	Leu	Ser	Asn	Thr	Pro	Val	Ala
					65			70		75			80		

Val Arg Met Gly Gln Val Ser Ala Leu Ser Glu Lys Leu Asn Cys Glu  
                   85                  90                  95  
 Val Ile Ala Ala Asp Ala Thr Asn Val Glu Asp Leu Glu Asn Val Phe  
                   100              105                  110  
 Lys Arg Ser Met Glu Val Leu Gly Gly Gln Ile Asp Phe Val Leu His  
                   115              120                  125  
 Ser Ile Gly Met Ser Pro Asn Val Arg Lys Lys Arg Thr Tyr Asp Asp  
                   130              135                  140  
 Leu Asp Tyr Asn Met Leu Asn Thr Thr Leu Asp Val Ser Ala Val Ser  
                   145              150                  155                  160  
 Phe His Lys Met Ile Gln Ala Ala Lys Lys Gln Asn Ala Ile Ala Glu  
                   165              170                  175  
 Tyr Gly Ser Ile Val Ala Leu Ser Tyr Val Ala Ala Gln Arg Thr Phe  
                   180              185                  190  
 Tyr Gly Tyr Asn Asp Met Ala Asp Ala Lys Ala Leu Leu Glu Ser Ile  
                   195              200                  205  
 Ala Arg Ser Phe Gly Tyr Ile Tyr Gly Arg Glu His Asn Val Arg Val  
                   210              215                  220  
 Asn Thr Ile Ser Gln Ser Pro Thr Phe Thr Thr Ala Gly Ser Gly Val  
                   225              230                  235                  240  
 Lys Gly Met Asp Lys Leu Tyr Asp Phe Ala Asn Arg Met Ser Pro Leu  
                   245              250                  255  
 Gly Asn Ala Ser Ala Asp Glu Cys Ala Asp Tyr Cys Ile Val Met Phe  
                   260              265                  270  
 Ser Asp Leu Thr Arg Lys Val Thr Met Gln Asn Leu Phe His Asp Gly  
                   275              280                  285  
 Gly Phe Ser Ser Val Gly Met Ser Leu Arg Ala Met Ala Thr Tyr Glu  
                   290              295                  300  
 Lys Gly Leu Asp Glu Tyr Lys Asp Glu Asn Gly Asn Ile Ile Tyr Gly  
                   305              310                  315                  320

&lt;210&gt; 6401

&lt;211&gt; 157

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6401

Leu Ala Ala Leu Arg Thr Cys Gly Leu Met Arg Phe Thr Val Ser Met  
 1                  5                  10                  15  
 Leu Trp Glu Met Ile Ser Gly Gln Ala Phe Ile Thr Trp Ser Ile Ser  
                   20              25                  30  
 Ser Leu Arg Pro Trp Lys Ser Gly Ile Ser Thr Ser Val Val Val Ser  
                   35              40                  45  
 Gly Phe Ser Arg Leu Ile Ser Arg Ile Val Cys Ala Gln Trp Ala Ala  
                   50              55                  60  
 Pro Lys Ser Gly Arg Ser Ser Arg Ser Thr Asp Val Ile Thr Ala Cys  
                   65              70                  75                  80  
 Glu Ser Phe Ile Arg Ala Ile Asp Ser Ala Thr Trp Ala Gly Ser Ser  
                   85              90                  95  
 Gly Ser Lys Gly Arg Gly Arg Pro Val Trp Val Leu Gln Asn Leu Gln  
                   100              105                  110  
 Leu Arg Val Gln Met Ser Pro Ala Ile Met Asn Val Ala Val Pro Phe  
                   115              120                  125  
 Pro Gln His Ser Pro Met Leu Gly Gln Arg Pro Leu Leu Gln Met Val  
                   130              135                  140  
 Cys Arg Gln Cys Asp Ser Thr Met Arg Leu Val Ser Val  
                   145              150                  155

&lt;210&gt; 6402

<211> 369  
<212> PRT  
<213> B.fragilis

<400> 6402

His	Asn	Leu	Trp	Asn	Leu	Tyr	Lys	Lys	Thr	Phe	Arg	Met	Lys	Lys	Asn
1															15
Ser	Phe	Glu	Thr	Gln	Ile	Leu	His	Thr	Pro	Phe	Glu	Lys	Glu	Asp	Ala
					20					25					30
Tyr	His	Ser	Leu	Ser	Met	Pro	Val	Tyr	His	Thr	Ala	Ala	Tyr	Glu	Phe
					35				40				45		
Glu	Thr	Ala	Glu	Glu	Met	Glu	Ala	Ala	Phe	Cys	Gly	Gln	Lys	Ala	Gly
					50				55			60			
His	Ala	Tyr	Ser	Arg	Ile	Thr	Asn	Pro	Thr	Val	Gln	Tyr	Phe	Glu	Gln
					65				70		75			80	
Arg	Val	Gln	Arg	Val	Thr	Gly	Ala	Leu	Ser	Val	Thr	Ala	Leu	Asn	Ser
					85				90			95			
Gly	Met	Ala	Ala	Ile	Ser	Asn	Ala	Leu	Ile	Thr	Leu	Ala	Ser	Ala	Gly
					100				105			110			
Ala	Asn	Val	Val	Thr	Ser	Lys	His	Leu	Phe	Gly	Asn	Thr	Tyr	Ser	Phe
					115				120			125			
Leu	Lys	Ser	Thr	Leu	Glu	Ala	Phe	Gly	Val	Glu	Val	Arg	Phe	Cys	Asp
					130				135			140			
Leu	Thr	Cys	Pro	Glu	Glu	Val	Lys	Gln	Gln	Ile	Asp	Gly	Asp	Thr	Cys
					145				150		155			160	
Ala	Leu	Phe	Leu	Glu	Val	Ile	Thr	Asn	Pro	Gln	Leu	Glu	Val	Ala	Asp
					165				170			175			
Leu	Lys	Ala	Leu	Ala	Asp	Ile	Ala	His	Lys	Ala	Gly	Val	Pro	Leu	Leu
					180				185			190			
Ala	Asp	Thr	Thr	Ala	Ile	Pro	Phe	His	Val	Phe	His	Ala	Thr	Asp	Phe
					195				200			205			
Gly	Val	Asp	Ile	Glu	Ile	Val	Ser	Ser	Thr	Lys	Tyr	Ile	Ser	Gly	Gly
					210				215			220			
Ala	Thr	Cys	Ile	Gly	Gly	Leu	Ile	Ile	Asp	Tyr	Gly	Thr	Phe	Asp	Trp
					225				230		235			240	
Glu	His	Ser	Ala	Lys	Leu	Ala	Ala	Leu	Ser	Ala	Asp	Thr	Gly	Lys	Glu
					245				250			255			
Ala	Phe	Thr	Val	Lys	Leu	Arg	Lys	Glu	Val	His	Arg	Asn	Leu	Gly	Ala
					260				265			270			
Tyr	Met	Thr	Pro	Gln	Val	Ala	Tyr	Met	Gln	Thr	Leu	Gly	Leu	Glu	Thr
					275				280			285			
Met	Glu	Val	Arg	Phe	Ala	Arg	Gln	Ala	Glu	Thr	Cys	Leu	Lys	Leu	Ala
					290				295			300			
Gln	Cys	Leu	Gln	Glu	Leu	Pro	Glu	Ile	Glu	Ser	Val	Asn	Tyr	Thr	Gly
					305				310		315			320	
Leu	Glu	Ser	Asn	Pro	Phe	Tyr	Glu	Leu	Ser	Thr	Arg	Gln	Phe	Gly	Ser
					325				330			335			
Leu	Pro	Gly	Ala	Met	Leu	Thr	Phe	Asp	Leu	Pro	Ser	Arg	Glu	Ile	Cys
					340				345			350			
Phe	Arg	Phe	Ile	Asn	Arg	Leu	Arg	Phe	Ile	Arg	Lys	Gly	Asn	Asp	Phe
					355				360	.		365			
Ile															

<210> 6403  
<211> 66  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6403

Ser Val Ala Leu Glu Gly Ile Phe Ala Met Ala Asp Gln Thr Phe Leu  
 1 5 10 15  
 Ile Glu Lys Ala Ser Thr Asp Asn Ile Leu Ser Phe Ile Cys Ala Thr  
 20 25 30  
 Thr Asp Ala Lys Ile Val Ile His Gly Arg Asn Pro Ile Phe Ile His  
 35 40 45  
 Phe Leu Lys Pro Val Gly Ile Cys Ile Arg Ser Arg Ile Val Val Pro  
 50 55 60  
 Ser Ala  
 65

&lt;210&gt; 6404

<211> 374  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6404

Lys His Met Gly Asn Lys Gly Val Leu Ser Ser Ala Phe Asn Met Ser  
 1 5 10 15  
 Leu Gly Phe Ile Pro Val Ile Val Ser Ile Leu Leu Cys Glu Phe Ile  
 20 25 30  
 Thr Gln Asp Ile Ser Ile Tyr Ile Gly Thr Gly Ile Gly Leu Ile Tyr  
 35 40 45  
 Ser Tyr Arg Ser Leu Ser Arg Lys Gly Ala Arg Ile Pro Asn Phe Ile  
 50 55 60  
 Leu Tyr Ile Ser Thr Gly Ile Leu Thr Leu Leu Thr Leu Ala Ser Phe  
 65 70 75 80  
 Ile Pro Gly Asp Phe Val Pro Glu Gly Ala Leu Pro Leu Thr Leu Glu  
 85 90 95  
 Val Ser Ile Leu Ile Pro Met Val Ile Leu Phe Leu His Arg Arg Lys  
 100 105 110  
 Phe Ile Ser His Tyr Leu Arg Gln Asn Ala Gln Cys Asn Arg Arg Leu  
 115 120 125  
 Phe Ala Gln Gly Ala Glu Ser Ala Ile Val Ser Ala Arg Val Val Leu  
 130 135 140  
 Ile Leu Gly Ile Leu His Phe Ala Val Ile Ser Leu Thr Val Leu Val  
 145 150 155 160  
 Ala His Pro Leu Thr Arg Thr Ser Ile Leu Val Leu Tyr His Val Leu  
 165 170 175  
 Pro Pro Thr Ile Phe Ile Leu Ser Ile Leu Leu Asn Gln Ile Gly Ile  
 180 185 190  
 Arg Tyr Phe Asn His Val Met Ala His Thr Glu Tyr Val Pro Ile Val  
 195 200 205  
 Asn Thr Arg Gly Asp Val Ile Gly Lys Ser Leu Ala Val Glu Ala Ile  
 210 215 220  
 Asn Tyr Lys Asn Ala Tyr Ile Asn Pro Val Ile Arg Ile Ala Val Ser  
 225 230 235 240  
 Thr His Gly Met Leu Phe Leu Cys Asn Arg Pro Gln Ser Cys Ile Leu  
 245 250 255  
 Asp Lys Gly Lys Val Asp Ile Pro Met Glu Cys Tyr Leu Arg Tyr Gly  
 260 265 270  
 Glu Thr Leu Thr Ala Gly Ala Asn Arg Leu Leu Ser Asn Ala Phe Pro  
 275 280 285  
 Lys Ala Ser Asp Leu Lys Pro Thr Phe Thr Ile Ser Tyr His Phe Glu  
 290 295 300  
 Asn Glu Gln Thr Asn Arg Leu Val Tyr Leu Phe Ile Val Asp Met Glu  
 305 310 315 320  
 Asp Asp Ser Ile Leu Cys Asp Pro Arg Phe Lys Gly Gly Lys Leu Trp

325	330	335
Thr Phe Gln Gln Ile Glu His Asn Leu Gly Thr His Phe Phe Ser Glu		
340	345	350
Cys Phe Glu Leu Glu Tyr Glu His Leu Lys Gln Val Ile Gly Ile Arg		
355	360	365
Glu Lys Tyr Lys Val Ser		
370		

&lt;210&gt; 6405

&lt;211&gt; 673

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6405

Asn Ile Ser Gly Ser Ser Asp Val Glu Phe Thr Ile Asp Thr Gly Asn			
1	5	10	15
Lys Glu Phe Gln Asp Ala Leu Asn Leu Ile Gln Tyr Thr Arg Gln Ser			
20	25	30	
Val Phe Leu Thr Gly Lys Ala Gly Thr Gly Lys Ser Thr Phe Leu Lys			
35	40	45	
Tyr Ile Cys Lys Asn Thr Lys Lys Lys His Ile Val Leu Ala Pro Thr			
50	55	60	
Gly Ile Ala Ala Ile Asn Ala Gly Gly Ser Thr Leu His Ser Phe Phe			
65	70	75	80
Lys Leu Pro Phe His Pro Leu Leu Pro Asp Asp Pro Asn Leu Ser Leu			
85	90	95	
Gln Arg Gly Arg Ile His Glu Phe Phe Lys Tyr Thr Lys Pro His Arg			
100	105	110	
Lys Leu Leu Glu Gln Val Glu Leu Val Ile Ile Asp Glu Ile Ser Met			
115	120	125	
Val Arg Ala Asp Met Ile Asp Ala Val Asp Arg Ile Leu Arg Val Tyr			
130	135	140	
Ser Arg Asn Leu Arg Asp Pro Phe Gly Gly Lys Gln Val Leu Leu Val			
145	150	155	160
Gly Asp Val Phe Gln Leu Glu Pro Val Ile Lys Gly Asp Glu Arg Glu			
165	170	175	
Ile Ile Asn Arg Phe Tyr Pro Thr Pro Tyr Phe Phe Ser Ala Arg Val			
180	185	190	
Phe Asn Glu Ile Glu Leu Val Ser Ile Glu Leu Gln Lys Val Tyr Arg			
195	200	205	
Gln Ser Asp Ala Val Phe Val Ser Val Leu Asp His Ile Arg Ser Gly			
210	215	220	
Ala Ala Gly Ala Ala Asp Leu Gln Leu Leu Asn Thr Arg Tyr Gly Ala			
225	230	235	240
Gln Ile Asp Ala Ser Glu Glu Asp Leu Tyr Ile Thr Leu Ala Thr Arg			
245	250	255	
Arg Asp Thr Val Glu Thr Ile Asn Glu Arg Lys Leu Thr Glu Leu Pro			
260	265	270	
Gly Asp Pro Val Val Phe Glu Gly Glu Ile Asn Gly Asp Phe Pro Glu			
275	280	285	
Ser Ser Leu Pro Thr Ser Lys Glu Leu Thr Leu Lys Pro Gly Ala Gln			
290	295	300	
Ile Ile Phe Ile Lys Asn Asp Phe Glu Arg Arg Trp Val Asn Gly Thr			
305	310	315	320
Ile Gly Val Val Ser Gly Ile Asp Asn Asp Gly Ile Ile Tyr Val Ile			
325	330	335	
Thr Asp Asp Gly Lys Glu Cys Asp Val His Arg Glu Ser Trp Arg Asn			
340	345	350	
Ile Arg Tyr Lys Tyr Asn Glu Glu Lys Lys Glu Ile Glu Glu Glu			

355	360	365
Leu Gly Thr Phe Thr Gln Tyr Pro Ile Arg Leu Ala Trp Ala Ile Thr		
370	375	380
Val His Lys Ser Gln Gly Leu Thr Phe Ser Arg Val Val Ile Asp Phe		
385	390	395
400		
Thr Gly Gly Val Phe Ala Gly Gln Ala Tyr Val Ala Leu Ser Arg		
405	410	415
Cys Thr Ser Leu Glu Gly Ile Gln Leu Lys Lys Pro Ile Ser Arg Ala		
420	425	430
Asp Ile Phe Val Arg Pro Glu Ile Val Ser Phe Ser Gly Arg Phe Asn		
435	440	445
Asn Arg Gln Ala Ile Asp Lys Ala Leu Lys Gln Ala Gln Ala Asp Val		
450	455	460
Gln Tyr Ala Ala Ala Arg Ala Phe Asp Lys Gly Asp Phe Glu Thr		
465	470	475
480		
Cys Leu Glu Gln Phe Phe Leu Ala Ile His Ser Arg Tyr Asp Ile Glu		
485	490	495
Lys Pro Ala Ala Arg Arg Leu Ile Arg Arg Lys Leu Gly Val Val Asn		
500	505	510
Leu Leu Arg Glu Gln Lys Arg Lys Leu Gln Ala Gln Met Glu Ala Gln		
515	520	525
Lys Lys Ser Leu Gln Lys Tyr Ala Arg Glu Tyr Leu Leu Met Gly Asn		
530	535	540
Glu Cys Ile Thr Gln Ala His Asp Val Arg Ala Ala Leu Ala Asn Tyr		
545	550	555
560		
Asp Lys Ala Ile Glu Leu Tyr Pro Glu Tyr Ile Asp Ala Trp Ile Arg		
565	570	575
Lys Gly Ile Thr Leu Phe Asn Glu Lys Glu Phe Phe Asp Ala Glu Asn		
580	585	590
Cys Leu Asn Arg Ala Val Ser Leu Arg Pro Ser Glu Phe Lys Ala Leu		
595	600	605
Tyr Asn Arg Gly Lys Leu Arg Leu Gln Thr Glu Asn Ile Glu Gly Ala		
610	615	620
Leu Ser Asp Leu Asp Lys Ala Thr Ser Leu Lys Pro Glu His Pro Gly		
625	630	635
640		
Ala His Glu Leu Phe Gly Asp Thr Leu Leu Lys Val Gly Lys Glu Thr		
645	650	655
Glu Ala Ala Ile Gln Trp Arg Ile Ala Glu Glu Leu Arg Lys Lys Lys		
660	665	670

Lys

<210> 6406  
<211> 207  
<212> PRT  
<213> B.fragilis

<400> 6406

Gln Thr Ile Met Ile Leu Lys Leu Tyr Glu Lys Asn Asn Asn Pro Gln		
1	5	10
15		
Asp Leu Gln Arg Ile Val Asp Leu Leu Asn Asp Gly Gly Leu Ile Ile		
20	25	30
Tyr Pro Thr Asp Thr Met Tyr Ala Ile Gly Cys His Gly Leu Lys Glu		
35	40	45
Arg Ala Ile Glu Arg Ile Cys Arg Ile Lys Glu Ile Asp Pro Lys Lys		
50	55	60
Asn Asn Leu Ser Ile Ile Cys Tyr Asp Leu Ser Ser Ile Ser Glu Tyr		
65	70	75
80		
Ala Lys Val Asp Asn Asn Ile Phe Lys Leu Met Lys Arg Asn Leu Pro		

85	90	95	
Gly Pro Phe Thr	Gly		
Phe Ile Leu Asn	Thr Asn Arg	Leu Pro Lys Ile	
100	105	110	
Phe Arg Asn Arg Lys Glu Val	Gly Ile Arg Met	Pro Asp Asn Ser Ile	
115	120	125	
Ile Arg Glu Ile Ala Arg	Leu Asp Ala Pro	Ile Met Thr Thr Thr	
130	135	140	
Leu Pro His Asp Glu His	Glu Asp Ile Glu Tyr Val Thr Asp Pro	Glu	
145	150	155	160
Leu Ile Asp Glu Lys Leu Gly	Asp Val Val Asp Leu Val Ile Asp Gly		
165	170	175	
Gly Ile Gly Gly Ile Glu Pro Ser	Thr Val Val Asn Cys	Thr Glu Gly	
180	185	190	
Glu Ala Ala Ile Val Arg Gln	Gly Lys Gly Glu Leu Glu Glu Ala		
195	200	205	

&lt;210&gt; 6407

&lt;211&gt; 144

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6407

His Leu Ile Met Lys Lys Val	Leu Phe Phe Ala Leu Val	Leu Thr Ile	
1	5	10	15
Ala Thr Ala Cys Ser Gln	Thr Lys Asp Ser Tyr	Leu Glu Gly Phe Lys	
20	25	30	
Leu Phe Ile Glu Ser Val Gln	Lys Asn Ala Gln Asp Tyr	Thr Lys Ala	
35	40	45	
Asp Trp Glu Lys Ala Asp	Gln Phe Thr Lys Leu Lys Asp Ser Tyr		
50	55	60	
Asn Asn Phe Ser Lys Gln	Met Thr Ser Asp Glu Lys Gly	Glu Val Ile	
65	70	75	80
Lys Leu Glu Ser Thr Tyr	Ala Ala Leu Lys Leu Lys Lys Ile	Gly Asp	
85	90	95	
Asp Val Lys Glu Ser Thr	Lys Asp Ala Phe Glu Lys Val	Lys Asp Thr	
100	105	110	
Ala Lys Asp Ala Ala Lys	Asp Val Lys Glu Gly Ala Gln	Lys Ala Ala	
115	120	125	
Lys Lys Gly Glu Lys Ala	Met Glu Gly Ile Lys Asp	Gly Leu Lys Asp	
130	135	140	

&lt;210&gt; 6408

&lt;211&gt; 745

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6408

Lys Gln Pro Ile Lys Ser	Ser Lys Pro Met Lys Arg	Lys Phe Ile Phe	
1	5	10	15
Leu Phe Phe Cys Leu Cys	Cys Leu Ala Gly Phe Ala Gln	Gly Gly Lys	
20	25	30	
Ala Leu Asp Leu Lys Glu	Ile Asn Ser Gly Lys Phe Ser	Pro Glu Asn	
35	40	45	
Ile Tyr Gly Val Val Pro	Met Pro Asp Gly Glu His	Tyr Thr Gln Arg	
50	55	60	
Asn Ala Glu Gly Thr	Gln Ile Val Lys Tyr Ser Phe Arg	Thr Gly Glu	
65	70	75	80
Pro Val Glu Val Val	Phe Asp Val Thr Lys Ala Arg	Glu Cys Pro Phe	
85	90	95	

Lys Lys Phe Asp Ser Tyr Gln Phe Ser Pro Asp Gly Ser Lys Ile Leu  
     100               105               110  
 Ile Ala Thr Glu Thr Lys Pro Ile Tyr Arg His Ser Tyr Thr Ala Val  
     115               120               125  
 His Tyr Leu Tyr Pro Val Lys Arg Asn Asp Lys Gly Val Thr Thr Asn  
     130               135               140  
 Asn Ile Val Glu Lys Leu Ser Asp Gly Gly Pro Gln Gln Ala Pro Val  
     145               150               155               160  
 Phe Ser Pro Asp Gly Asn Leu Val Ala Phe Val Arg Asp Asn Asn Ile  
     165               170               175  
 Phe Leu Val Lys Leu Leu Tyr Gly Asn Ser Glu Ser Gln Val Thr Glu  
     180               185               190  
 Asp Gly Lys Leu Asn Ser Val Leu Asn Gly Ile Pro Asp Trp Val Tyr  
     195               200               205  
 Glu Glu Glu Phe Gly Phe Asn Arg Ala Leu Glu Phe Asn Ala Asp Asn  
     210               215               220  
 Thr Met Leu Ala Tyr Val Arg Phe Asp Glu Ser Glu Val Pro Ser Tyr  
     225               230               235               240  
 Thr Phe Pro Leu Phe Ala Gly Glu Ala Pro Arg Tyr Asp Ala Leu Gln  
     245               250               255  
 Asp Tyr Pro Gly Glu Tyr Thr Tyr Lys Tyr Pro Lys Ala Gly Tyr Pro  
     260               265               270  
 Asn Ser Lys Val Ser Val His Thr Phe Asp Ile Lys Ser Lys Val Thr  
     275               280               285  
 Arg Gln Val Lys Leu Pro Ile Asp Ala Asp Gly Tyr Ile Pro Arg Ile  
     290               295               300  
 Arg Phe Thr Gln Asp Pro Asn Lys Leu Ala Ile Met Thr Leu Asn Arg  
     305               310               315               320  
 His Gln Asn Arg Phe Asp Met Tyr Phe Ala Asp Pro Arg Ser Thr Val  
     325               330               335  
 Cys Lys Leu Ala Leu Arg Asp Glu Ser Pro Tyr Tyr Ile Asn Glu Asn  
     340               345               350  
 Val Phe Asp Asn Ile Gln Phe Tyr Pro Glu Tyr Phe Ser Phe Val Ser  
     355               360               365  
 Asp Lys Ser Gly Tyr Pro His Leu Tyr Trp Tyr Ser Met Asn Gly Asn  
     370               375               380  
 Leu Ile Lys Gln Val Thr Ser Gly Asn Tyr Glu Val Lys Asn Phe Ile  
     385               390               395               400  
 Gly Trp Asn Pro Asp Thr Asn Glu Phe Tyr Tyr Thr Ser Asn Glu Glu  
     405               410               415  
 Ser Pro Met Arg Gln Ala Val Tyr Lys Ile Asp Arg Lys Gly Lys Lys  
     420               425               430  
 Met Lys Leu Ser Asn Gln Pro Gly Thr Asn Ser Pro Ile Phe Ser Ser  
     435               440               445  
 Ser Met Lys Tyr Phe Met Asn Lys Phe Thr Ser Leu Asp Thr Pro Met  
     450               455               460  
 Leu Ile Thr Leu Asn Asp Asn Thr Gly Lys Val Leu Lys Thr Leu Val  
     465               470               475               480  
 Thr Asn Asp Lys Leu Lys Gln Lys Leu Ala Glu Tyr Ala Ile Pro Gln  
     485               490               495  
 Lys Glu Phe Phe Thr Phe Lys Thr Thr Glu Gly Val Asp Leu Asn Gly  
     500               505               510  
 Trp Met Met Lys Pro Val Asn Phe Asp Pro Ala Lys Arg Tyr Pro Val  
     515               520               525  
 Leu Met Phe Gln Tyr Ser Gly Pro Gly Ser Gln Gln Val Leu Asp Lys  
     530               535               540  
 Trp Gly Ile Ser Trp Glu Thr Tyr Met Ala Ser Leu Gly Tyr Val Val  
     545               550               555               560  
 Ala Cys Val Asp Gly Arg Gly Thr Gly Gly Arg Gly Ser Glu Phe Gln

565	570	575
Lys Cys Thr Tyr Leu Asn Leu Gly Val	Lys Glu Ala Lys Asp Gln Val	
580	585	590
Glu Ala Ala Lys Tyr Leu Gly Gly Leu Pro Tyr Val Asp Lys Gly Arg		
595	600	605
Ile Gly Ile Trp Gly Trp Ser Phe Gly Gly Tyr Met Thr Ile Met Ser		
610	615	620
Met Ser Glu Gly Thr Pro Val Phe Lys Ala Gly Val Ala Val Ala Ala		
625	630	635
Pro Thr Asp Trp Lys Tyr Tyr Asp Thr Val Tyr Thr Glu Arg Phe Met		
645	650	655
Arg Thr Pro Lys Glu Asn Ala Glu Gly Tyr Lys Ala Ala Ser Ala Phe		
660	665	670
Ser Arg Ala Asp Asn Leu His Gly Asn Leu Leu Leu Val His Gly Met		
675	680	685
Ala Asp Asp Asn Val His Phe Gln Asn Cys Thr Glu Tyr Ala Glu His		
690	695	700
Leu Val Gln Leu Gly Lys Gln Phe Asp Met Gln Val Tyr Thr Asn Arg		
705	710	715
Asn His Ser Ile Tyr Gly Gly Asn Thr Arg Asn His Leu Tyr Thr Lys		
725	730	735
Leu Thr Asn Phe Phe Arg Asn Asn Leu		
740	745	

&lt;210&gt; 6409

&lt;211&gt; 281

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6409

Asn Met Asp Ile His Pro Ile Gln Glu Ser Ser Arg Arg Trp Met Thr			
1	5	10	15
Ala Leu Ile Leu Ala Val Val Ala Ala Gly Ile Gln Thr Thr Leu Leu			
20	25	30	
Trp Gly Tyr Ala Gly Ala Asp Thr Leu Pro Ala Ala Ile Asp Gly Ile			
35	40	45	
Leu Ser Val Gly Leu Leu Cys Leu Leu Ala Tyr Leu Ala Trp Tyr Val			
50	55	60	
Ile Gly Leu Val Ser Ile Leu Gln Thr Asp Leu Leu Ile Ala Ala Leu			
65	70	75	80
Ala Leu Leu Phe Trp Leu Ala Gly Gly Phe Ala Val Gln Tyr Val Leu			
85	90	95	
Glu Gln Asn Met Gly Gln Val Tyr Ala Pro Phe Gly Glu Thr Leu Pro			
100	105	110	
Phe Arg Ile Leu Phe Gly Ala Leu Ala Trp Gly Val Met Met Leu Trp			
115	120	125	
Tyr Arg Leu Gln Ser Leu Asn Thr Val Gln Glu Glu Ile Leu Glu Glu			
130	135	140	
Ala Val Ser Arg Glu Glu Ala Leu Arg Glu Glu Leu Arg Gln Ile Glu			
145	150	155	160
Cys Arg Glu Asp Lys Ala Leu Pro Glu Glu Ala Glu Cys Ile Asp Arg			
165	170	175	
Ile Thr Val Lys Asp Gly Thr His Ile His Leu Ile Arg Thr Asp Glu			
180	185	190	
Leu Leu Tyr Ile Gln Ala Cys Gly Asp Tyr Val Thr Leu Val Thr Pro			
195	200	205	
Ser Gly Gln Tyr Val Lys Glu Gln Thr Met Lys Tyr Phe Asp Ala His			
210	215	220	
Leu Pro Ser Ala Gly Phe Val Arg Val His Arg Ser Thr Ile Val Asn			

225	230	235	240
Val Thr Gln Ile Ser Arg Val Glu Leu Phe Gly Lys Glu Asn Tyr Gln			
245	250	255	
Leu Ser Leu Lys Asn Gly Val Arg Leu Lys Val Ser Asn Ser Gly Tyr			
260	265	270	
Lys Leu Leu Lys Glu Arg Leu Glu Leu			
275	280		

&lt;210&gt; 6410

&lt;211&gt; 402

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6410

Lys Lys Arg Met Glu Gln Lys Thr Arg Ile Lys Gly Asn Val His Tyr			
1	5	10	15
Val Gly Val Asn Asp Arg Asn Lys His Leu Phe Glu Gly Met Trp Pro			
20	25	30	
Leu Pro Tyr Gly Val Ser Tyr Asn Ser Tyr Leu Ile Asp Asp Glu Met			
35	40	45	
Val Ala Leu Ile Asp Thr Val Asp Ile Cys Tyr Phe Glu Val Tyr Leu			
50	55	60	
Arg Lys Ile Arg Asn Ile Ile Gly Asp Arg Pro Ile Asn Tyr Leu Ile			
65	70	75	80
Ile Asn His Met Glu Pro Asp His Ser Gly Ser Ile Arg Leu Ile Lys			
85	90	95	
Gln His Tyr Pro Asp Ile Val Ile Val Gly Asn Lys Gln Thr Phe Gly			
100	105	110	
Met Ile Glu Gly Phe Tyr Gly Val Thr Gly Glu Gln Tyr Leu Ile Lys			
115	120	125	
Asp Gly Asp Phe Leu Ala Leu Gly Arg His Lys Leu Arg Phe Tyr Leu			
130	135	140	
Thr Pro Met Val His Trp Pro Glu Thr Met Met Thr Phe Asp Glu Thr			
145	150	155	160
Asp Gly Ile Leu Phe Ser Gly Asp Gly Phe Gly Cys Phe Gly Thr Leu			
165	170	175	
Asp Gly Gly Phe Val Asp Thr Arg Met Asn Ile Asp His Tyr Trp Gly			
180	185	190	
Glu Met Val Arg Tyr Tyr Ser Asn Ile Val Gly Lys Tyr Gly Ser Pro			
195	200	205	
Val Gln Lys Ala Leu Gln Lys Leu Gly Gly Leu Pro Ile Ser Ala Ile			
210	215	220	
Cys Ser Thr His Gly Pro Val Trp Thr Glu Asn Ile Thr Lys Val Val			
225	230	235	240
Gly Ile Tyr Asp Lys Leu Ser Arg Tyr Asp Ala Asp Glu Gly Val Val			
245	250	255	
Ile Ala Tyr Gly Ser Met Tyr Gly Asn Thr Glu Gln Met Ala Glu Ala			
260	265	270	
Ile Ala Ala Glu Leu Ser Ala Gln Gly Ile Lys Asn Ile Val Met His			
275	280	285	
Asn Val Ser Lys Ser Asn Pro Ser Tyr Ile Leu Ala Asp Ile Phe Arg			
290	295	300	
Tyr Lys Gly Leu Ile Ile Gly Ser Pro Thr Tyr Ser Asn Gln Ile Phe			
305	310	315	320
Pro Glu Val Glu Ser Leu Leu Ser Lys Ile Leu Val Arg Glu Leu Lys			
325	330	335	
Gly Arg Tyr Leu Gly Tyr Phe Gly Ser Phe Thr Trp Ala Gly Ala Ala			
340	345	350	
Val Lys Arg Met Ala Glu Phe Ala Glu Lys Ser Lys Phe Glu Leu Val			

355	360	365
Gly Asp Pro Val Glu Met Lys	Gln Ala Met Lys Glu Ile Thr Tyr Gln	
370	375	380
Gln Cys Glu Asn Leu Ala Arg Ala Met Ala Gly Arg Leu Lys Lys Asp		
385	390	395
Arg Val		400

<210> 6411  
<211> 292  
<212> PRT  
<213> B.fragilis

<400> 6411

Gln Thr Ala Val Lys Ile Tyr His His Cys Gly Ile Gln Leu Leu Tyr			
1	5	10	15
Ile Arg Leu Phe Gln Tyr Ile Cys Ala Pro Leu Lys Lys Arg Arg Met			
20	25	30	
Ile Lys Ala Leu Phe Phe Asp Ile Asp Gly Thr Leu Val Ser Phe Asn			
35	40	45	
Thr His Glu Ile Pro Ser Ser Thr Leu Ala Ala Ile Ala Glu Ala Lys			
50	55	60	
Ala Lys Gly Ile Lys Ile Phe Ile Ala Thr Gly Arg Pro Lys Ala Ile			
65	70	75	80
Ile Asn Asn Leu Thr Ala Leu Gln Glu Arg Glu Leu Ile Asp Gly Tyr			
85	90	95	
Ile Thr Met Asn Gly Gly Tyr Cys Phe Val Gly Asp Glu Val Ile Tyr			
100	105	110	
Lys His Ser Ile Pro Val Gln Asp Val Lys Ala Leu Ala Ala Leu Ser			
115	120	125	
Asp Glu Arg Asn Phe Pro Cys Ile Phe Val Ala Glu His Thr Val Ala			
130	135	140	
Val Cys Asn Thr Asn Lys Leu Val Asn Glu Ile Phe His Asp Phe Leu			
145	150	155	160
His Val Asp Ile Leu Pro Ile Gln Thr Thr Ala Glu Ala Thr Gln Pro			
165	170	175	
Glu Ile Phe Gln Met Thr Pro Phe Ile Thr Thr Glu Glu Glu Lys Thr			
180	185	190	
Val Leu Pro Leu Leu Pro Asn Cys Glu Ser Gly Arg Trp Phe Pro Ala			
195	200	205	
Phe Thr Asp Ile Val Ala Lys Gly Ile Arg Lys Gln Lys Gly Ile Asp			
210	215	220	
Glu Ile Ile Arg His Phe Gly Ile Gly Gln Glu Glu Thr Met Ala Phe			
225	230	235	240
Gly Asp Gly Gly Asn Asp Ile Ser Met Leu Arg His Ala Ala Ile Gly			
245	250	255	
Val Ala Met Gly Asn Ala Asn Asp Asp Val Lys Glu Thr Ala Asp Tyr			
260	265	270	
Ile Thr Thr Ser Val Asp Glu Asp Gly Ile Gln Lys Ala Leu Lys His			
275	280	285	
Phe Gly Ile Ile			
290			

<210> 6412  
<211> 204  
<212> PRT  
<213> B.fragilis

<400> 6412

Lys Ala Lys Phe Ile Ile Tyr Lys Leu Tyr Thr Met Leu Pro Lys Lys  
 1 5 10 15  
 Lys Asn Leu Glu Glu Glu Arg Ala Lys His Thr Val Asp Ser Leu Tyr  
 20 25 30  
 Lys Asp Tyr Val Asp Asp Leu Phe Ser Tyr Ala Leu Gly Phe Gly Phe  
 35 40 45  
 Asp Lys Gln Thr Ala Met Asp Ala Ile His Asp Val Phe Cys Arg Val  
 50 55 60  
 Cys Ile Arg Glu Arg Glu Val Gln Glu Ile Gln Asn Pro Lys Phe Tyr  
 65 70 75 80  
 Leu Leu Arg Ala Leu Arg Asn Gln Leu Ile Asp Thr Tyr Lys Leu Lys  
 85 90 95  
 Arg Asn Tyr Ser Glu Val Leu Thr Gly Glu Ile Thr Asp Glu Leu Pro  
 100 105 110  
 Tyr Lys Ile Lys Ile Thr Val Glu Asp Glu Ile Ile Ala Ala Glu Glu  
 115 120 125  
 Gln Ala Glu Val Ser Gln Lys Val Asp Glu Ile Leu Ser Ile Leu Thr  
 130 135 140  
 Glu Arg Gln Arg Glu Ile Ile Tyr Leu Arg Tyr Met Gln Glu Cys Ser  
 145 150 155 160  
 Tyr Glu Glu Ile Ala Glu Ile Met Gln Ile Ser Val Pro Ala Cys Arg  
 165 170 175  
 Lys Leu Leu Tyr Arg Thr Leu Leu Lys Leu Lys His Asn Asn Thr Leu  
 180 185 190  
 Val Leu Phe Tyr Leu Leu Leu Ser Ile Asn Val Gly  
 195 200

<210> 6413  
 <211> 245  
 <212> PRT  
 <213> B.fragilis

<400> 6413  
 Ser Val Lys Phe Gln Leu Leu Asn Thr Leu Phe Met Asp Thr Ala Leu  
 1 5 10 15  
 Tyr Leu Leu Pro Val Thr Leu Gly Asp Thr Pro Ile Glu Ser Val Leu  
 20 25 30  
 Pro Ser Tyr Asn Lys Glu Ile Ile Gln Gly Ile Lys His Phe Ile Val  
 35 40 45  
 Glu Asp Val Arg Ser Ala Arg Arg Phe Leu Lys Lys Val Asp Arg Glu  
 50 55 60  
 Ile Asp Ile Asp Ser Leu Thr Phe Tyr Pro Leu Asn Lys His Thr Ser  
 65 70 75 80  
 Pro Glu Asp Ile Ser Gly Tyr Leu Lys Pro Leu Ala Gly Gly Leu Ser  
 85 90 95  
 Met Gly Val Ile Ser Glu Ala Gly Cys Pro Ala Val Ala Asp Pro Gly  
 100 105 110  
 Ala Asp Val Val Ala Ile Ala Gln Arg Lys Asn Leu Lys Val Val Pro  
 115 120 125  
 Leu Val Gly Pro Ser Ser Ile Ile Leu Ser Val Met Gly Ser Gly Phe  
 130 135 140  
 Asn Gly Gln Ser Phe Ala Phe His Gly Tyr Leu Pro Ile Glu Pro Gly  
 145 150 155 160  
 Glu Arg Ala Lys Lys Ile Lys Ala Leu Glu Gln Arg Val Tyr Ala Glu  
 165 170 175  
 His Gln Thr Gln Leu Phe Ile Glu Thr Pro Tyr Arg Asn Asn Lys Met  
 180 185 190  
 Val Glu Asp Ile Leu His Asn Cys Arg Pro Gln Thr Arg Leu Cys Ile  
 195 200 205

Ala Ala Asn Ile Thr Cys Glu Gly Glu Tyr Ile Arg Thr Lys Thr Ile  
 210 215 220  
 Lys Glu Trp Gln Gly Lys Val Pro Asp Leu Thr Lys Ile Pro Cys Ile  
 225 230 235 240  
 Phe Leu Leu Tyr Gln  
 245

<210> 6414

<211> 458

<212> PRT

<213> *B. fragilis*

<400> 6414

Asn Gly Cys Ser Val Pro Gly Leu Gly Ile Tyr His Ser Lys Phe Pro  
 1 5 10 15  
 Asp Ala Glu Arg Val Glu Ile Trp Gln Lys Gln Leu Thr Glu Glu Gly  
 20 25 30  
 Tyr Asp Ile Ile Leu Gly Val Arg Ser Ser Val Phe Leu Pro Phe Arg  
 35 40 45  
 Asn Leu Gly Leu Val Ile Val Asp Glu Glu His Glu Asn Thr Tyr Lys  
 50 55 60  
 Gln Gln Asp Pro Ala Pro Arg Tyr His Ala Arg Asn Ala Ala Ile Val  
 65 70 75 80  
 Leu Ala Ser Met Tyr Gly Ala Lys Thr Leu Leu Gly Thr Ala Thr Pro  
 85 90 95  
 Ser Val Glu Thr Trp Gln Asn Ala Thr Thr Gly Lys Phe Gly Trp Val  
 100 105 110  
 Glu Leu Lys Glu Arg Tyr Lys Glu Ile Gln Leu Pro Glu Ile Ile Pro  
 115 120 125  
 Val Asp Ile Lys Glu Leu His Arg Lys Lys Arg Met Thr Gly Gln Phe  
 130 135 140  
 Ser Pro Leu Leu Leu Gln Tyr Val Arg Glu Ala Leu Asp Asn Lys Gln  
 145 150 155 160  
 Gln Val Ile Leu Phe Gln Asn Arg Arg Gly Phe Ala Pro Met Ile Glu  
 165 170 175  
 Cys Arg Thr Cys Gly Trp Val Pro Lys Cys Lys Asn Cys Asp Val Ser  
 180 185 190  
 Leu Thr Tyr His Lys Gly Ile Asn Gln Leu Thr Cys His Tyr Cys Gly  
 195 200 205  
 Tyr Thr Tyr Gln Leu Pro Arg Ser Cys Pro Ala Cys Glu Gly Val Glu  
 210 215 220  
 Leu Met His Arg Gly Phe Gly Thr Glu Lys Ile Glu Asp Asp Val Lys  
 225 230 235 240  
 Leu Ile Phe Pro Glu Ala Ser Val Ala Arg Met Asp Leu Asp Thr Thr  
 245 250 255  
 Arg Thr Arg Ser Ala Tyr Glu Lys Ile Ile Ala Asp Phe Glu Gln Gly  
 260 265 270  
 Lys Thr Asp Ile Leu Ile Gly Thr Gln Met Val Ser Lys Gly Leu Asp  
 275 280 285  
 Phe Asp His Val Ser Val Val Gly Ile Leu Asn Ala Asp Thr Met Leu  
 290 295 300  
 Asn Tyr Pro Asp Phe Arg Ser Tyr Glu Arg Ala Phe Gln Leu Met Ala  
 305 310 315 320  
 Gln Val Ala Gly Arg Ala Gly Arg Lys Asn Lys Arg Gly Arg Val Val  
 325 330 335  
 Leu Gln Thr Lys Ser Ile Asp His Pro Ile Ile Arg Gln Val Met Thr  
 340 345 350  
 Asn Asp Tyr Glu Asp Met Val Ala Gly Gln Leu Ala Glu Arg Gln Met  
 355 360 365

Phe His Tyr Pro Pro Tyr Tyr Arg Met Val Tyr Val Tyr Leu Lys Asn  
 370 375 380  
 Arg Asn Glu Thr Leu Leu Asp Val Met Ala His Thr Met Ala Glu Lys  
 385 390 395 400  
 Leu Arg Ala Leu Phe Gly Asn Arg Ile Leu Gly Pro Asp Lys Pro Pro  
 405 410 415  
 Val Ala Arg Ile Gln Thr Leu Phe Ile Arg Lys Ile Val Val Lys Ile  
 420 425 430  
 Glu Gln Asn Ala Pro Met Ser Arg Ala Arg Glu Leu Val Phe Thr Thr  
 435 440 445  
 Gly Leu Glu Gly Ser Ala Arg Ser Val His  
 450 455

&lt;210&gt; 6415

&lt;211&gt; 510

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6415

Ile Thr Asn Ser Ile Lys Thr Asn Ala Met Leu Arg Lys Ile Arg Leu  
 1 5 10 15  
 Thr Cys Gly Ile Ile Cys Leu Thr Leu Ile Thr Leu Leu Phe Leu Asp  
 20 25 30  
 Phe Thr Gly Thr Leu His Gly Trp Phe Gly Trp Leu Ala Lys Ile Gln  
 35 40 45  
 Phe Leu Pro Ala Val Leu Ala Leu Asn Val Gly Val Val Val Leu Leu  
 50 55 60  
 Ile Ile Leu Thr Gly Val Phe Gly Arg Ile Tyr Cys Ser Val Ile Cys  
 65 70 75 80  
 Pro Leu Gly Val Phe Gln Asp Val Ala Ala Trp Ile Gly Lys Lys Arg  
 85 90 95  
 Lys Lys Leu Pro Tyr Ser Tyr Ser Pro Ala Leu Ser Leu Leu Arg Tyr  
 100 105 110  
 Gly Ala Leu Ala Ile Phe Ile Ile Thr Leu Val Ala Gly Val Ser Phe  
 115 120 125  
 Ile Ala Thr Leu Phe Ala Pro Tyr Ser Ala Tyr Gly Arg Ile Ala Asn  
 130 135 140  
 Asn Leu Phe Gln Pro Ile Trp Leu Trp Gly Asn Asn Leu Phe Ala His  
 145 150 155 160  
 Leu Ala Glu Arg Ala Gly Asn Tyr Ala Phe Tyr Glu Val Asp Ile Trp  
 165 170 175  
 Ile Lys Ser Leu Pro Thr Phe Ile Val Ala Ala Thr Phe Val Ile  
 180 185 190  
 Leu Ile Leu Leu Ala Trp Arg Asn Gly Arg Thr Tyr Cys Asn Thr Ile  
 195 200 205  
 Cys Pro Val Gly Thr Val Leu Gly Phe Leu Ser Arg Tyr Ser Leu Phe  
 210 215 220  
 Arg Ile Thr Ile Asp Thr Glu Lys Cys Asn Lys Cys Gly Leu Cys Ala  
 225 230 235 240  
 Arg His Cys Lys Ala Ala Cys Ile Asn Ala Lys Glu His Thr Ile Asp  
 245 250 255  
 Tyr Ser Arg Cys Val Val Cys Met Asp Cys Leu Gly Lys Cys Lys Gln  
 260 265 270  
 Lys Ala Leu Ser Tyr Gln Leu Arg Thr Thr Lys Ala Arg Pro Ala Lys  
 275 280 285  
 Ala Glu Glu Asn Ala Leu Ala Ala Ser Ser Lys Glu Val Asn Glu Ala  
 290 295 300  
 Arg Arg Asn Phe Leu Thr Val Thr Ala Met Ala Ala Thr Ala Ser Ala  
 305 310 315 320

Leu Lys Ala Gln Glu Lys Lys Val Asp Gly Gly Leu Ala Ala Ile Glu  
 325 330 335  
 Asp Lys Lys Ile Pro Asn Arg Gln Thr Pro Ile Thr Pro Pro Gly Ser  
 340 345 350  
 Leu Ser Ala Arg Asn Met Ala Ala His Cys Thr Ala Cys Gln Leu Cys  
 355 360 365  
 Val Ser Ala Cys Ser Asn Gln Val Leu Arg Pro Ser Thr Asn Leu Met  
 370 375 380  
 Asn Leu Met Gln Pro Glu Ile Ser Tyr Glu Arg Gly Tyr Cys Arg Pro  
 385 390 395 400  
 Glu Cys Asn Asp Cys Ser Gln Val Cys Pro Thr Gly Ala Ile His Pro  
 405 410 415  
 Ile Thr Ala Ala Asp Lys Ser Ser Thr Gln Ile Gly His Ala Val Trp  
 420 425 430  
 Ile Lys Ala Asn Cys Val Ser Leu Thr Asp Gly Val Lys Cys Asp Asn  
 435 440 445  
 Cys Ala Arg His Cys Pro Thr Gly Ala Ile Gln Met Ile Val Ala Glu  
 450 455 460  
 Pro Glu Lys Glu Ala Ser Pro Gln Ile Pro Ala Ile Asn Thr Glu Arg  
 465 470 475 480  
 Cys Ile Gly Cys Gly Ala Cys Glu Asn Leu Cys Pro Ala Arg Pro Phe  
 485 490 495  
 Ser Ala Ile Tyr Val Glu Gly His Glu Arg His Arg Ile Ile  
 500 505 510

&lt;210&gt; 6416

&lt;211&gt; 265

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6416

Lys Ser Val Pro Gly Ile Phe Thr Ser Asn Ile Val Ala Val Met Lys  
 1 5 10 15  
 Val Leu Ile Val Glu Asp Glu Thr Ala Ala Tyr Glu Asn Leu Thr Asp  
 20 25 30  
 Ile Leu Thr Glu Ile Thr Pro Asp Ile Arg Ile Met Ala Asn Thr Glu  
 35 40 45  
 Ser Val Thr Gln Thr Val Gly Trp Leu Gln Ser Asn Pro Ala Pro Asp  
 50 55 60  
 Leu Ile Phe Met Asp Ile His Leu Ser Asp Gly Ser Ala Phe Ala Ile  
 65 70 75 80  
 Phe Asp Arg Ile Glu Leu Glu Thr Pro Ile Ile Phe Thr Thr Ala Tyr  
 85 90 95  
 Asp Arg Tyr Ala Ile Glu Ala Phe Lys Val Asn Ser Ile Asp Tyr Leu  
 100 105 110  
 Leu Lys Pro Val Lys Val Glu Asp Val Glu His Ala Leu Glu Lys Tyr  
 115 120 125  
 Ser Lys Leu Thr Arg Gln Asp Leu Leu Gln Tyr Leu Ser Gln Leu Thr  
 130 135 140  
 Leu Leu Lys Pro Ala Pro Arg Tyr Lys Asp Lys Leu Leu Ile Ala His  
 145 150 155 160  
 Lys Asp Lys Leu Leu Pro Val Asn Ile Lys Asn Ile Ser Tyr Phe Tyr  
 165 170 175  
 Ala Thr Gly Lys Asn Thr Tyr Val Cys Leu Lys Asp Gly Asn Arg Tyr  
 180 185 190  
 Pro Tyr Ser Lys Thr Leu Glu Gln Ile Ala Ser Ser Leu Asn Pro Glu  
 195 200 205  
 Asp Phe Ile Arg Ala Asn Lys Gln Phe Ile Val Ala Arg Asp Ser Val  
 210 215 220

Thr Asp Ile Thr Ile Trp Phe Asp Ser Arg Leu Leu Ile Thr Leu Asp  
 225 230 235 240  
 Thr Glu Val Pro Glu Arg Ile Tyr Val Ser Lys Asn Lys Ala Ser Glu  
 245 250 255  
 Phe Lys Thr Trp Leu Val Asn Asp Lys  
 260 265

&lt;210&gt; 6417

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6417

Ile Thr Met Phe Tyr Asp Tyr Leu Cys Lys Gly Lys Ser Leu Tyr Leu  
 1 5 10 15  
 Ser Thr Gln Cys Leu Leu Ile Thr Ile Ser Phe Pro Asp Met Asp Ile  
 20 25 30  
 Val Asp Lys Leu Asn Lys Glu Phe Leu Thr Gln Pro Phe Cys Lys Asn  
 35 40 45  
 Glu Gln Leu Pro Glu Glu Leu Asn Glu Tyr Lys Arg Ile Ala Tyr Asn  
 50 55 60  
 Tyr Ala Arg Ile Glu Asn Ser Ile Ala Val Leu Ser Asp Met His Thr  
 65 70 75 80  
 Asn Ile Ser Tyr Ile Tyr Tyr Gly Gly Thr Ala Glu Thr Leu Gly Ile  
 85 90 95  
 Ala Arg Lys Gly Asp Asn Gln Asn Leu Glu Ser Ile Trp Glu Lys Glu  
 100 105 110  
 Val Phe Lys Tyr Ile His Pro Asp Asp Leu Ala Glu Lys Tyr Val Gln  
 115 120 125  
 Glu Leu Arg Phe Tyr His Phe Leu Lys Gln Ile Pro His Lys Lys Arg  
 130 135 140  
 Ala Asp Tyr Phe Leu Met Ser Lys Leu Arg Met Arg Asp Pro Ser Gly  
 145 150 155 160  
 Lys Tyr Ile Pro Ile Leu His Arg Met Phe Tyr Val Ala Thr His Ser  
 165 170 175  
 Asn Asp Ser Met Trp Leu Ala Leu Cys Leu Tyr Asn Leu Ser Val Asp  
 180 185 190  
 Pro Thr Met Ser Cys Arg Val Ile Asn Ser Thr Asn Gly Gln Val Ile  
 195 200 205  
 Glu Leu Glu Lys Gln Asp Cys Ser Lys Leu Leu Ser Asp Arg Glu Lys  
 210 215 220  
 Thr Ile Leu Gln Leu Ile Asp Met Gly Lys Thr Ser His Glu Ile Ala  
 225 230 235 240  
 Arg Glu Leu Phe Ile Ser Lys Asn Thr Val Ser Arg His Arg Gln Asn  
 245 250 255  
 Ile Leu Glu Lys Leu Gln Val Lys Asn Ser Ile Glu Ala Cys Arg Ile  
 260 265 270  
 Ala Lys Glu Leu Lys Leu Leu Phe  
 275 280

&lt;210&gt; 6418

&lt;211&gt; 195

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6418

Thr Gln Val Thr Pro Cys Arg Arg Leu His Val Trp Glu Glu Leu Ile  
 1 5 10 15  
 Leu Thr Phe Asn Tyr Tyr Ile Ile Met Glu Thr Thr Ser Ile Lys

20	25	30
Leu	Tyr	Ser
Leu	Asn	Tyr
Asn	Asp	Thr
Thr	Lys	Thr
Tyr	Leu	Thr
Leu	Asn	Thr
35	35	40
Leu	Phe	Val
Val	Val	Gly
Gly	Asn	Met
Met	Ala	Leu
Leu	Pro	Gln
Gln	Leu	Phe
Phe	His	Leu
Ile		
50	55	60
Pro	Gln	Gly
Gly	Gly	Ile
Ile	Thr	Trp
Trp	Leu	Pro
Leu	Ile	Tyr
Tyr	Phe	Phe
Phe	Thr	Leu
Leu	Ile	
65	70	75
Gly	Ala	Tyr
Tyr	Gly	Trp
Trp	Lys	Val
Val	Gly	Leu
Leu	Leu	Thr
Ala	Leu	Leu
85	90	95
Ser	Pro	Val
Val	Leu	Asn
Asn	Ser	Leu
Leu	Phe	Gly
Gly	Met	Met
Met	Pro	Gln
Gln	Pro	Pro
Pro	Val	Ile
Ile		
100	105	110
Leu	Pro	Ala
Ala	Ile	Leu
Leu	Leu	Lys
Lys	Ser	Thr
Thr	Leu	Leu
Leu	Ala	Ile
Ile	Ala	Ala
Ala	Gly	
115	120	125
Tyr	Ala	Ala
Ala	His	Arg
His	Tyr	Lys
Tyr	Arg	Ile
Ile	Ser	Ile
Ser	Ile	Pro
Ile	Leu	Leu
Leu	Ile	Leu
130	135	140
Val	Val	Leu
Leu	Ser	Tyr
Tyr	Gln	Val
Val	Val	Gly
Gly	Thr	Leu
Leu	Gly	Glu
Glu	Trp	Ile
Ile	Leu	
145	150	155
Val	Asn	Asp
Asp	Phe	Phe
Phe	Ser	Ala
Ala	Val	Gln
Gln	Asp	Phe
Phe	Arg	Ile
Arg	Gly	Leu
Leu	Pro	
165	170	175
Gly	Met	Ala
Met	Leu	Gln
Gln	Ile	Phe
Phe	Gly	Tyr
Tyr	Leu	Phe
Phe	Ile	Ser
Ser	Arg	Leu
180	185	190
Ile	Tyr	Lys
195		

&lt;210&gt; 6419

&lt;211&gt; 87

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6419

Asn	Gln	Pro	Thr	Ile	Leu	Tyr	Ile	Leu	Thr	Ser	Phe	Tyr	Tyr	Leu	Ser
1				5			10		15						
Ser	Ile	Lys	Ser	Ile	Asn	Met	Asp	Ser	Ile	Gly	Lys	Arg	Met	Tyr	Arg
				20			25		30						
Asn	Leu	Gly	Asp	Asp	Thr	Lys	Ala	Lys	Ile	Ser	Gln	Ser	Leu	Arg	Gly
				35			40		45						
Arg	Ser	Lys	Ser	Ala	Ser	His	Ile	Gln	Ala	Ile	Ser	Gln	Gly	Met	Thr
				50			55		60						
Asn	Tyr	Trp	Lys	Thr	Ile	Pro	Val	Lys	Thr	Asp	Asp	Asn	Pro	Ser	Asp
				65			70		75						80
Lys	Thr	Lys	Lys	Glu	Gly	Gln									
				85											

&lt;210&gt; 6420

&lt;211&gt; 212

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6420

Thr	Ser	Asn	Thr	Met	Lys	Lys	Val	Val	Ile	Phe	Ala	Arg	Val	Ser	Ser
1				5			10		15						
Thr	Asn	Gly	Thr	Gln	Asp	Tyr	Glu	Arg	Gln	Ile	Asn	Asp	Leu	Gln	Thr
				20			25		30						
Leu	Ala	Ser	Ala	Asn	Asn	Trp	Thr	Val	Glu	Ala	Val	Phe	Ala	Glu	Lys
				35			40		45						
Val	Ser	Gly	Ala	Lys	Lys	Asn	Thr	Glu	Arg	Ile	Glu	Leu	Met	Asn	Met
				50			55		60						
Ile	Asn	Tyr	Ile	Asn	Ser	His	Asn	Ile	His	Lys	Val	Leu	Val	Thr	Glu
				65			70		75						80

Leu Ser Arg Leu Gly Arg Asp Thr Leu Gln Val Leu Gln Ala Ile Glu  
       85                    90                    95  
 Ile Leu Asn Gln Asn Lys Val Ser Val Phe Ile Gln Asn Tyr Asn Ile  
       100                105                110  
 Glu Thr Leu Thr Pro Glu Gly Glu Ile Asn Pro Met Ser Gln Phe Leu  
       115                120                125  
 Ile Thr Ile Leu Ala Glu Val Ala Arg Met Glu Arg Lys Thr Ile Arg  
       130                135                140  
 Glu Arg Val Ala Ser Gly Tyr Gln Asn Phe Arg Ser Asn Gly Gly Lys  
       145                150                155                160  
 Val Gly Arg Lys Val Gly Tyr Thr Lys Ser Asp Glu Val Met Arg Glu  
       165                170                175  
 Glu Tyr Ala Glu Glu Leu Arg Leu Leu Lys Arg Gly Tyr Ser Leu Arg  
       180                185                190  
 Asn Thr Ser Lys Leu Thr Gly Thr Ser Ile Asn Thr Leu Arg Lys Leu  
       195                200                205  
 Thr Gln Leu Thr  
       210

&lt;210&gt; 6421

&lt;211&gt; 447

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6421

Phe Thr Gly Thr Thr His Arg Arg Ile Leu Phe Tyr Phe Asn Asn Tyr  
 1                    5                    10                    15  
 Phe Ser Tyr Glu Gln Ser Leu Asn Thr Gly Asn Gly Arg Phe Ile Arg  
       20                25                30  
 Ser Gln Tyr Pro Val Ser Glu Gln Cys Ala Gln Phe Leu Gly His Gly  
       35                40                45  
 Val Cys His His Ile Lys Gln Arg Leu Val Pro Val Phe Gln Ile Asp  
       50                55                60  
 Ile His His Pro Val Ile Arg Arg Ile Met Lys His Leu Pro Leu Ser  
       65                70                75                80  
 Gln Leu Ser Arg His His Ile Phe Ile Ile Val Arg His His Leu Thr  
       85                90                95  
 Asp Asp Gly Met Val Tyr Thr Phe Gly Leu Gln His Tyr Pro Ala Pro  
       100               105               110  
 Phe Ile Phe Ser Ser Gly Thr Ser Gly Asn Leu Arg His Gln Leu Glu  
       115               120               125  
 Gly Thr Phe Val Arg Thr Glu Ile Gly Ile Ile Gln His Arg Val Arg  
       130               135               140  
 Ile Glu Tyr Pro His His Ala Asp Val Val Lys Val Glu Ser Phe Gly  
       145               150               155                160  
 Tyr His Leu Gly Thr Asp Gln Tyr Ile Gly Leu Ser Leu Phe Lys Val  
       165               170               175  
 Cys Asn Asn Phe Phe Val Cys Arg Pro Arg Thr Cys Ser Ile Glu Ile  
       180               185               190  
 His Thr Cys Tyr Gly Ser Phe Arg Lys Asn Gln Leu His Ile Ile Phe  
       195               200               205  
 Tyr Leu Phe Arg Thr Lys Ser Ser Val His Gln Leu Asp Pro Phe Ala  
       210               215               220  
 Ser Arg Thr Arg Thr Gly Gln Leu Val Ser Ile Pro Ala Ile Val Ala  
       225               230               235                240  
 Ser Gln Leu Ile Asp Thr Phe Met Ile Gly Gln Ala Asp Ile Thr Val  
       245               250               255  
 Leu Ala Leu Trp His Pro Ser Ala Arg Ala Ala Leu Tyr His Arg Ser  
       260               265               270

Lys Ser Pro Ala Ile Leu Lys Gln Asn His Leu Leu Phe Ile Ile Glu  
 275 280 285  
 Cys Leu Ala Asp Ile Leu Gln Gln Arg Arg Glu Leu Pro Arg His  
 290 295 300  
 Pro Leu Leu Ala Val Gln Leu Leu Tyr Ile Tyr Arg Asn Asn Leu Arg  
 305 310 315 320  
 Gln Leu Asn Phe Leu Ile Ala Phe Phe Gln Phe His Pro Pro Glu Phe  
 325 330 335  
 Ala Gly Ser Gly Ile Leu Pro Ser Leu His Arg Arg Ser Gly Ser Thr  
 340 345 350  
 Gln Gln Arg Leu Cys Pro Ile His Arg Ser Gln His Asp Gly Ser Ile  
 355 360 365  
 Pro Gly Met Ile Ala Arg Cys Gly Ile Leu Leu Leu Ile Arg Ile Phe  
 370 375 380  
 Val Phe Leu Val His Asn Asp Gln Ser Glu Ile Pro Lys Arg Glu Glu  
 385 390 395 400  
 His Arg Arg Ala Tyr Pro Gln Asn Asp Val Val Thr Leu Leu Arg Gln  
 405 410 415  
 Leu Leu Leu Pro Asp Leu Tyr Ser Leu Gly Val Gly Glu Leu Gly Val  
 420 425 430  
 Ile Asp Ser Gln Pro Gly Asn Arg Thr Pro Val Ser Ala Val Arg  
 435 440 445

&lt;210&gt; 6422

&lt;211&gt; 65

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6422

Leu Lys Thr Thr Gly Arg Val Asn Gln Tyr Thr Ile Phe Pro Thr  
 1 5 10 15

Met Arg Glu Leu Asn Val Gly Gly Phe Ala Ala Cys Leu Ser Val Tyr  
 20 25 30

Pro Glu Lys Ala Arg His Lys Lys Asn Lys Phe Lys Thr Ala Cys Asn  
 35 40 45

Gln Ile Arg Ser Ala Met Asn Arg Thr Glu Thr Tyr Asn Ser Thr Thr  
 50 55 60

Gln

65

&lt;210&gt; 6423

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6423

Lys Ile Ser Thr Thr Lys Ser Pro Cys Ser Ile Asn Thr Asp Thr Leu  
 1 5 10 15

Ile Leu Lys Val Arg Lys Ser Ile Leu Ile Cys Leu Asp Gln Asp Ile  
 20 25 30

Glu Lys Ala Gln Arg Thr Val Asp Glu Lys Gln Ala Ala Val Asp Gly  
 35 40 45

Leu Asn Ala Thr Leu Lys Lys Leu Leu Asp Ala Tyr Ala Ala Glu  
 50 55 60

&lt;210&gt; 6424

&lt;211&gt; 419

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6424

Pro Asn Arg Ala Ile Gly Ile Ile Thr Asn Met Asn Lys Leu Leu Met  
 1 5 10 15  
 Pro Phe Met Thr Leu Val Cys Leu Leu Phe Thr Ala Cys Asn Lys Asp  
 20 25 30  
 Asp Ile Leu Pro Gly Gly Pro Met Leu Trp Thr Tyr Glu Ile Leu Thr  
 35 40 45  
 Pro Glu Ser Val Glu Tyr Glu Gly Gly Thr Val Gly Trp Ile Pro Lys  
 50 55 60  
 Glu Cys Phe Lys Ala Asn Gly Asn Glu Gly Tyr Ile Val Met Thr Cys  
 65 70 75 80  
 Lys Asn Phe Asp Met Leu Asn Pro Ile Ser Gly Gly Ser Tyr Thr Tyr  
 85 90 95  
 Asp Cys Gly Trp Ala Thr Leu Lys Val Glu Ala Asn Gln Leu Lys Ile  
 100 105 110  
 His Phe Pro Arg Gln Val Ser Glu Ala Pro Asp Ala Tyr Glu Glu Ile  
 115 120 125  
 Thr Ile Ser Thr Asn Asp Gly Lys Arg Thr Ala Ser Thr Ile Ile Cys  
 130 135 140  
 Leu Ser Arg Thr Phe Lys Asp Glu Gly Gln Pro Asp Pro Glu Pro Lys  
 145 150 155 160  
 Pro Leu Pro Glu Glu Ala Lys Phe Lys Met Lys Lys Ala Tyr Phe Thr  
 165 170 175  
 Pro Phe Met His Leu Asp Thr Gln Phe Pro Ala Pro Leu Asp Leu Val  
 180 185 190  
 Thr Phe Arg Ile Thr Asp Ile Asn Asp Asn Tyr Thr Pro Leu Gly Phe  
 195 200 205  
 Pro Glu Phe Thr Gln Tyr Tyr Asp Ser Ile Val Trp Ser Ala Glu Gly  
 210 215 220  
 Phe Pro His Thr Phe Arg Val Tyr Glu Ser Asn Thr Thr Glu Gly Gly  
 225 230 235 240  
 Met Glu Thr His Leu Ala Thr Glu Trp Ser Ser His Phe Phe Lys Ser  
 245 250 255  
 Gly Thr Ile Lys Asn Tyr Leu Lys Gly Tyr Arg Lys Gly Lys Val Glu  
 260 265 270  
 Tyr Glu Thr Ser Leu Ala Val Arg Leu Tyr Glu Arg Asp Phe Leu Gly  
 275 280 285  
 Ile Glu Trp Gly Thr Ile Val Leu Gln Ser Pro Gln Asn Leu Thr Thr  
 290 295 300  
 Tyr Cys Leu Leu Asp Thr Asp Tyr Glu Tyr Gln Val Tyr Asp Ile Val  
 305 310 315 320  
 Ala Lys Asp Tyr Asn Pro Phe Ser Lys Ile Ile Pro Val Asn His Lys  
 325 330 335  
 Gln Leu Ser Asp Ser Asp Phe Pro Ala Ala Ala Gln Lys Ala Ile Lys  
 340 345 350  
 Thr Leu Met Glu Asn Asn Ile Gly Glu Gly Gln Asn Ala Gly Gly Lys  
 355 360 365  
 Glu Asn Leu Phe Lys Cys Leu Pro Glu Glu Gly Val Lys Ala Glu Leu  
 370 375 380  
 Tyr Trp Glu Asn Lys Thr Thr Arg Ile Leu Met Leu His Gln Leu Ser  
 385 390 395 400  
 Thr Asp Pro Asp Asp Leu Thr Gln Glu Lys Tyr Tyr Leu His Val Glu  
 405 410 415  
 Pro Lys Gln

&lt;210&gt; 6425

&lt;211&gt; 431

<212> PRT  
 <213> B.fragilis

<400> 6425

Tyr	Asp	Met	Ala	Lys	Ile	Gln	Ile	Lys	Ser	Glu	Lys	Leu	Thr	Pro	Phe
1					5				10					15	
Gly	Gly	Ile	Phe	Ser	Ile	Met	Glu	Lys	Phe	Asp	Ser	Met	Leu	Ser	Pro
						20			25					30	
Val	Ile	Asp	Ser	Thr	Leu	Gly	Gln	Arg	Cys	Ser	Ser	Ile	Phe	Gly	Tyr
					35				40				45		
Gln	Phe	Ser	Glu	Ile	Val	Arg	Ser	Leu	Met	Ser	Val	Tyr	Phe	Cys	Gly
					50				55			60			
Gly	Ser	Cys	Val	Glu	Asp	Val	Thr	Ser	Gln	Leu	Met	Arg	His	Leu	Ser
					65				70		75		80		
Tyr	His	Pro	Thr	Leu	Arg	Thr	Cys	Ser	Ser	Asp	Thr	Ile	Leu	Arg	Ala
					85				90				95		
Ile	Lys	Glu	Leu	Thr	Gln	Glu	Asn	Ile	Ser	Tyr	Thr	Ser	Asp	Gln	Gly
					100				105			110			
Lys	Thr	Tyr	Asp	Phe	Asn	Thr	Ala	Asp	Lys	Leu	Asn	Thr	Leu	Leu	Ile
					115				120			125			
Asn	Ala	Leu	Val	Ser	Thr	Gly	Glu	Leu	Lys	Glu	Ile	Glu	Glu	Tyr	Asp
					130				135			140			
Val	Asp	Phe	Asp	His	Gln	Phe	Leu	Glu	Thr	Glu	Lys	Tyr	Asp	Ala	Lys
					145				150		155		160		
Pro	Thr	Tyr	Lys	Lys	Phe	Leu	Gly	Tyr	Arg	Pro	Gly	Val	Tyr	Val	Ile
					165				170			175			
Gly	Asp	Lys	Ile	Val	Tyr	Ile	Glu	Asn	Ser	Asp	Gly	Asn	Thr	Asn	Val
					180				185			190			
Arg	Phe	His	Gln	Ala	Asp	Thr	His	Lys	Arg	Phe	Phe	Ala	Leu	Leu	Glu
					195				200			205			
Ser	Gln	Asn	Ile	Arg	Val	Asn	Arg	Phe	Arg	Ala	Asp	Cys	Gly	Ser	Cys
					210				215			220			
Ser	Lys	Glu	Ile	Val	Ser	Glu	Ile	Glu	Lys	His	Cys	Lys	His	Phe	Tyr
					225				230		235		240		
Ile	Arg	Ala	Asn	Arg	Cys	Ser	Ser	Leu	Tyr	Asn	Asp	Ile	Phe	Ala	Leu
					245				250			255			
Arg	Gly	Trp	Lys	Thr	Glu	Glu	Ile	Asn	Gly	Ile	Gln	Phe	Glu	Leu	Asn
					260				265			270			
Ser	Ile	Leu	Val	Glu	Lys	Trp	Glu	Gly	Lys	Cys	Tyr	Arg	Leu	Val	Ile
					275				280			285			
Gln	Arg	Gln	Arg	Arg	Asn	Ser	Gly	Asp	Leu	Asp	Leu	Trp	Glu	Gly	Glu
					290				295			300			
Tyr	Thr	Tyr	Arg	Cys	Ile	Leu	Thr	Asn	Asp	Tyr	Lys	Ser	Ser	Thr	Arg
					305				310		315		320		
Asp	Ile	Val	Glu	Phe	Tyr	Asn	Leu	Arg	Gly	Gly	Lys	Glu	Arg	Ile	Phe
					325				330			335			
Asp	Asp	Met	Asn	Asn	Gly	Phe	Gly	Trp	Ser	Arg	Leu	Pro	Lys	Ser	Phe
					340				345			350			
Met	Ala	Glu	Asn	Thr	Val	Phe	Leu	Leu	Leu	Thr	Ala	Leu	Ile	His	Asn
					355				360			365			
Phe	Tyr	Lys	Thr	Ile	Met	Ser	Arg	Leu	Asp	Thr	Lys	Ala	Phe	Gly	Leu
					370				375			380			
Lys	Lys	Thr	Ser	Arg	Ile	Lys	Ala	Phe	Val	Phe	Arg	Phe	Ile	Ser	Val
					385				390		395		400		
Pro	Ala	Lys	Trp	Ile	Met	Thr	Ala	Arg	Gln	Tyr	Val	Leu	Asn	Ile	Tyr
					405				410			415			
Thr	Glu	Asn	Arg	Ala	Tyr	Ala	Lys	Pro	Phe	Lys	Thr	Glu	Phe	Gly	
					420				425			430			

<210> 6426  
<211> 165  
<212> PRT  
<213> B.fragilis

<400> 6426

Leu	Asn	Ser	Tyr	Lys	Met	Lys	Lys	Asn	Val	Phe	Ile	Leu	Phe	Val	Val
1				5					10					15	
Leu	Leu	Thr	Thr	Ser	Val	Phe	Met	Ser	Cys	Ser	Ser	Asp	Asp	Asp	Asn
					20				25					30	
Asp	Asn	Gly	Lys	Val	Glu	Asn	Thr	Ile	Ile	Ile	Asn	Gly	Lys	Glu	Tyr
			35				40					45			
Leu	Asn	Asp	Glu	Ser	Ala	Ser	Val	Ser	Tyr	Asn	Ser	Tyr	Ser	Gln	Ser
					50			55				60			
Ile	Ser	Phe	Glu	Ala	Gly	Phe	Ser	Asn	Pro	Glu	Ser	Leu	Met	Asp	Ile
					65		70			75				80	
Ser	Tyr	Phe	Thr	Ile	Ala	Ser	Asn	Asp	Ala	Ala	Ser	Val	Asp	Lys	Leu
						85			90				95		
Thr	Asn	Gly	Met	Glu	Leu	Asn	Ala	Lys	Val	Lys	Glu	Phe	Val	Lys	Asn
			100				105					110			
Thr	Asp	Leu	Gly	Ser	Ser	Tyr	Thr	Tyr	Thr	Thr	Val	Gly	Gly	Lys	Val
			115				120					125			
Val	Val	Asp	Asn	Val	Thr	Ser	Glu	Ser	Ile	Thr	Leu	Arg	Tyr	Asp	Asp
			130				135					140			
Phe	Lys	Phe	Thr	Lys	Asn	Gly	Gly	Glu	Tyr	Thr	Ile	Lys	Gly	Arg	Val
	145				150					155				160	
Leu	Tyr	His	Lys	Asn											
				165											

<210> 6427  
<211> 65  
<212> PRT  
<213> B.fragilis

<400> 6427

Pro	Thr	Asp	Tyr	Gln	Thr	Ile	Tyr	Ile	Phe	His	Phe	Cys	His	Phe	Thr
1					5				10				15		
Pro	Leu	Phe	Cys	Tyr	Leu	Val	His	Phe	Glu	Phe	Ser	Phe	Ser	Phe	Ala
					20			25				30			
Pro	Leu	Gln	Tyr	Arg	Lys	Thr	Lys	Glu	Asn	Gln	Leu	Phe	Ser	Val	Ile
				35			40					45			
Thr	Arg	Leu	Trp	Tyr	Leu	Asn	Arg	Asp	Lys	Thr	Ser	Ser	Val	Trp	Gln
			50			55				60					

Arg  
65

<210> 6428  
<211> 64  
<212> PRT  
<213> B.fragilis

<400> 6428

Lys	Lys	Cys	Tyr	Val	Ser	Lys	Ser	Met	Phe	Ser	Leu	Ala	Asp	Asp	Gly
1					5				10				15		
Leu	Ala	Ser	Ile	Leu	Cys	Asn	Thr	Ser	Ile	Tyr	Ser	Tyr	Phe	Val	Gly
					20			25				30			
Asn	Pro	Lys	Gln	Thr	Ile	Glu	Gly	Cys	Lys	Trp	Arg	Phe	Ala	Lys	Arg
			35			40					45				
Asn	Ser	Ser	Lys	Arg	Glu	Ser	Leu	Phe	Ile	Ile	Arg	Tyr	Lys	Glu	

50

55

60

<210> 6429  
<211> 66  
<212> PRT  
<213> B.fragilis

<400> 6429  
Ser Leu Leu Tyr Pro Ser Ile Phe Leu Pro Ile Phe Leu Glu Tyr Ser  
1               5               10               15  
Asp Phe Gly Cys Asp Phe Gly Tyr Ser Thr Tyr Asn Ser Gly Trp Ser  
20               25               30  
Cys Phe Val Ile Ser Lys Tyr Gly Lys Gln Tyr Ile Ala Glu Lys Asp  
35               40               45  
Lys Cys Met Asn Gly Pro Phe Asn Leu Phe Lys Val Leu Glu Leu Pro  
50               55               60  
Gln His  
65

<210> 6430  
<211> 192  
<212> PRT  
<213> B.fragilis

<400> 6430  
Phe Ile Ser Tyr Ser Glu Phe Ile Met Val Asn Glu Leu Asn Lys Glu  
1               5               10               15  
Met Asp Val Asp Lys Tyr Lys Ile Arg Ser Trp Ser Lys Asp Asp Phe  
20               25               30  
Ser Thr Leu Ala Lys Tyr Leu Asn Asn Lys Lys Ile Trp Asp Asn Cys  
35               40               45  
Arg Asp Ser Leu Pro Tyr Pro Tyr Ser Glu Asn Asp Ala Gln Gln Phe  
50               55               60  
Ile Leu Ser Val Ser Ser Gln Asn Glu Gln Asn Asn Tyr Cys Ile Glu  
65               70               75               80  
Val Asn Gln Glu Ala Ala Gly Asn Ile Ser Phe Ala Arg Gly Ile Asp  
85               90               95  
Val Glu Arg Tyr Asn Ala Glu Leu Gly Tyr Trp Leu Ala Glu Pro Tyr  
100              105              110  
Trp Gly Lys Gly Ile Met Thr Gln Met Leu Ala Leu Ala Ile Ser Ser  
115              120              125  
Tyr Phe His His Thr Asp Val Met Arg Ile Cys Ala Asn Val Tyr Ala  
130              135              140  
Gly Asn Ile Ala Ser Met Arg Val Leu Glu Lys Ile Gly Phe Arg Lys  
145              150              155              160  
Cys Gly Ile His Arg Asn Ala Cys Phe Lys Asn Gly Val Phe Thr Asp  
165              170              175  
Cys His Tyr Phe Glu Leu Leu Lys Glu Glu Phe Arg Asn Leu Val Lys  
180              185              190

<210> 6431  
<211> 235  
<212> PRT  
<213> B.fragilis

<400> 6431  
Leu Leu Ala Tyr Asn Thr Leu Leu Leu Lys Trp Phe Tyr Ile Ser Leu  
1               5               10               15  
Cys Val Glu Arg Asp Ile Phe Gln Phe Ile Met Asn Gly Phe Phe Leu

20	25	30
Leu Lys Arg Pro Phe Ile Trp	Leu Ala Arg Phe Arg His	Arg Cys Gly
35	40	45
Tyr Gly Val His Ser Pro Phe Ala Phe Asp	Leu Ile Thr Asn Val Ile	
50	55	60
Tyr Glu Arg Thr Pro Tyr Tyr Ala Tyr Ser	Ser Leu Glu Ala Glu Gln	
65	70	75
Lys Lys Met Ser Ala Asn Ser Gly Arg	Lys Trp Lys His Glu Ser Lys	
85	90	95
Lys Val Asn Arg Leu Leu Phe Arg	Leu Val Asn Tyr Ile Gln Pro Asp	
100	105	110
Thr Ile Val Asp Ala Gly	Thr Leu Ser Ala Ser Ser Leu Tyr Leu Gln	
115	120	125
Ala Gly His Ala Lys Ala Asp	Tyr Val Gly Ala Ser Asp Leu Ser Glu	
130	135	140
Leu Phe Leu Glu Lys Asp	Thr Pro Val Asp Phe Leu Tyr Leu His His	
145	150	155
Tyr Arg Asn Glu Glu	Phe Val Glu Gln Val Phe Asp Leu Cys Ala Ser	
165	170	175
Arg Thr Thr Gly Arg Gly	Leu Phe Val Ile Glu Gly Ile Arg Tyr Thr	
180	185	190
Lys Lys Met Lys Ala Leu Trp	Lys Lys Ile Gln Gln Asp Asp Arg Thr	
195	200	205
Gly Ile Thr Phe Asp Leu Tyr Asp	Leu Gly Ile Val Phe Phe Asp Arg	
210	215	220
Thr Lys Ile Lys Gln His	Tyr Leu Val Asn Phe	
225	230	235

&lt;210&gt; 6432

&lt;211&gt; 67

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6432

Leu Ile Leu Tyr Ser Asp Lys Gly Asn Ser Phe Gln Asp Ile Arg Glu			
1	5	10	15
Lys Lys Lys Arg Tyr Val Tyr Leu Val Gly Glu Asn Val Gly Asn Phe			
20	25	30	
Gln Thr Asp Val Arg Asp Ser	Ile Val Val Leu Thr His Ile Ala Trp		
35	40	45	
Thr Val Leu Val Thr Ser Ala Ser Lys Val Ser Tyr Glu Leu His Leu			
50	55	60	
Asp Val Ala			
65			

&lt;210&gt; 6433

&lt;211&gt; 240

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6433

Tyr Tyr Leu Tyr Ser Leu Ile Thr His Ser Thr Ala Ile Glu Gly Ser			
1	5	10	15
Thr Leu Thr Glu Leu Asp Thr Gln Leu Leu Phe Asp Glu Gly Val Thr			
20	25	30	
Ala Lys Gly Lys Pro Leu Val His His Leu Met Asn Glu Asp Leu Lys			
35	40	45	
Gln Ala Tyr Glu Leu Ala Lys Thr Glu Ser Ser Leu Val Gln Ile			
50	55	60	

Thr Pro Ala Leu Leu Gln Arg Leu Asn Ala Thr Leu Met Arg Thr Thr  
 65 70 75 80  
 Ser Ser Val His Ser Val Met Gly Gly Ser Phe Asp Ser Ser Lys Gly  
 85 90 95  
 Asp Phe Arg Leu Cys Gly Val Thr Ala Gly Val Gly Gly His Ser Tyr  
 100 105 110  
 Met Asn Tyr Leu Lys Val Pro Ala Lys Val Asp Glu Leu Cys Ala Ile  
 115 120 125  
 Leu Gln Val Lys Gln Lys Thr Val Gly Thr Leu Arg Glu Gln Tyr Glu  
 130 135 140  
 Leu Ser Phe Asn Ala His Leu Asn Leu Val Thr Ile His Pro Trp Val  
 145 150 155 160  
 Asp Gly Asn Gly Arg Met Ala Arg Leu Leu Met Asn Tyr Ile Gln Phe  
 165 170 175  
 Cys Tyr His Leu Phe Pro Thr Lys Ile Phe Lys Glu Asp Arg Glu Glu  
 180 185 190  
 Tyr Ile Leu Ser Leu Arg Gln Cys Gln Asp Glu Glu Thr Asn Gln Val  
 195 200 205  
 Phe Leu Asp Phe Met Val Arg Gln Leu Lys Lys Ser Leu Ser Leu Glu  
 210 215 220  
 Ile Glu Cys Phe Asn Ala Ser Gln Lys Arg Gly Phe Ser Phe Met Phe  
 225 230 235 240

&lt;210&gt; 6434

&lt;211&gt; 91

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6434

Leu Gln Arg Tyr His Pro Cys Gly Ser Arg Lys Arg Gln Leu Pro Gln  
 1 5 10 15  
 Lys His Phe Thr Gly Thr Ala Gly Ser Thr Gln Glu Arg Asn Pro Arg  
 20 25 30  
 Gly Ser Leu Leu Pro Arg Thr Tyr Arg Ser Tyr His Asn Gly Cys Arg  
 35 40 45  
 Ser Arg Arg Tyr Ser Ile Ser Val Phe Ala Ser Gln Glu Leu Asn Pro  
 50 55 60  
 Gln Lys Ser Arg Val Leu Leu Ile Leu Gly Leu Thr Lys Thr Asn Asp  
 65 70 75 80  
 Trp Lys Gln Ile Gln Gln Tyr Phe Asn Glu Tyr  
 85 90

&lt;210&gt; 6435

&lt;211&gt; 459

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6435

Leu Ala Tyr His Leu Pro Ile Gln Arg Gln Phe Ile Gln Leu Ser Leu  
 1 5 10 15  
 Pro Lys Ile Lys Lys Lys Asp Met Ile Leu Gln Leu Ala Phe Val Leu  
 20 25 30  
 Thr Ala Ile Ile Ile Gly Ala Arg Leu Gly Gly Ile Gly Leu Gly Val  
 35 40 45  
 Met Gly Gly Val Gly Leu Gly Ile Leu Thr Phe Ala Phe Gly Leu Gln  
 50 55 60  
 Pro Thr Ala Pro Pro Ile Asp Val Met Leu Met Ile Ala Ala Val Ile  
 65 70 75 80  
 Ser Ala Ala Ser Cys Met Gln Ala Ala Gly Gly Leu Asp Tyr Met Val

85	90	95
Lys Leu Ala Glu	Lys Leu Leu Arg	Lys Asn Pro Ser His Val Thr Ile
100	105	110
Leu Ser Pro Ile Val Thr Tyr	Leu Phe Thr Phe Val Ala Gly Thr Gly	
115	120	125
His Val Ala Tyr Ser Val	Leu Pro Val Ile Ala Glu Val Ala Thr Glu	
130	135	140
Thr Lys Ile Arg Pro	Glu Arg Pro Leu Gly Ile Ala Val Ile Ala Ser	
145	150	160
Gln Gln Ala Ile Thr	Ala Ser Pro Ile Ser Ala Ala Thr Val Ala Leu	
165	170	175
Leu Gly Leu Leu Ala Gly	Phe Asp Ile Thr Leu Phe Asp Ile Leu Lys	
180	185	190
Ile Thr Ile Pro Ala Thr	Ile Ile Gly Val Leu Val Gly Ala Leu Phe	
195	200	205
Ser Met Lys Val Gly	Lys Glu Leu Val Asp Asp Pro Glu Tyr Gln Lys	
210	215	220
Arg Leu Ala Glu Gly	Tyr Phe Asn Ser Lys Lys Ile Glu Ile Lys Asp	
225	230	240
Val His Asn Arg Arg	Asn Ala Met Ile Ser Val Leu Ile Phe Ile Leu	
245	250	255
Ala Thr Ala Phe Ile Val	Phe Gly Ser Phe Asp Gly Met Arg Pro	
260	265	270
Thr Phe Leu Ile Asp Gly	Glu Thr Val Thr Leu Gly Met Ser Ala Ile	
275	280	285
Ile Glu Ile Val Met Leu	Ser Ala Ala Ala Leu Ile Leu Ile Ile Thr	
290	295	300
Lys Thr Asp Gly Ile	Lys Ala Thr Gln Gly Ser Val Phe Pro Ala Gly	
305	310	320
Met Gln Ala Val Ile	Ala Ile Phe Gly Ile Ala Trp Met Gly Asp Thr	
325	330	335
Phe Leu Gln Gly Asn Met	Gly Gln Leu Thr Glu Ser Ile Glu Gly Leu	
340	345	350
Val Arg Gln Met Pro	Trp Leu Phe Gly Ile Ala Leu Phe Ile Met Ser	
355	360	365
Ile Leu Leu Tyr Ser	Gln Ala Ala Thr Val Arg Ala Leu Met Pro Leu	
370	375	380
Gly Ile Ala Leu Gly	Ile Ser Pro Tyr Met Leu Ile Ala Met Phe Pro	
385	390	400
Ala Val Asn Gly Tyr	Phe Phe Ile Pro Asn Tyr Pro Thr Val Val Ala	
405	410	415
Ala Ile Asn Phe Asp Arg	Thr Gly Thr Thr Lys Ile Gly Lys Tyr Val	
420	425	430
Leu Asn His Ser Phe	Met Met Pro Gly Leu Ile Ser Thr Val Val Ala	
435	440	445
Ile Ala Leu Gly Leu Leu	Phe Ile Gln Ile Phe	
450	455	

&lt;210&gt; 6436

&lt;211&gt; 327

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6436

Leu Lys Thr Gln Thr Trp Arg Phe Met Lys Lys Leu Met Leu Leu Thr  
1 5 10 15Leu Leu Ser Thr Phe Ile Phe Tyr Ser Cys Ser Asp Asp Asp Ser Cys  
20 25 30

Thr Thr Cys Lys Glu Asp Asn Gly Ser Leu Val Thr Pro Asp Leu Ser

35	40	45
Val Thr Leu Ser Asp Thr Gln Ser Pro Met Thr Gly Val	Leu Glu Ala	
50	55	60
Tyr Pro Cys Gln Ala Gly Gly Ala Ile Tyr Tyr Gly Asn	Tyr Ile Glu	
65	70	75
Gly Lys Leu Thr Ser Phe Pro Gly Met Tyr Tyr Leu Gln Asn	Gly Glu	
85	90	95
Ile Tyr Gly Asp Lys Asn Arg Glu Ile Ser Leu Pro Val	Gly Thr Tyr	
100	105	110
Asn Met Ile Tyr Trp Gly Thr Pro Lys Tyr Glu Glu Leu	Ile Tyr Ser	
115	120	125
Asn Pro Val Val Ala Pro Gln Ile Thr Ile Gly Gly Asp	Leu Ser	
130	135	140
Gln Gln Tyr Phe Gly Leu Arg Lys Val Ser Ala Asp Thr	Thr Tyr Tyr	
145	150	155
Pro Val Phe Asp Leu Val Tyr Thr Val Lys Pro Ala His	Ile Gly Thr	
165	170	175
Glu Glu Leu Ser Ala Ala Met Gln Arg Val Val Ala Gly	Leu Lys Val	
180	185	190
Ile Val Lys Asn Lys Asn Asn Gly Ile Leu Ser Ser Ser	Ile Ala Gly	
195	200	205
Met Glu Val His Val Gly Gly Ile Ala Glu Lys Leu Asn	Met Tyr Thr	
210	215	220
Ala Ala Pro Val Asn Gln Thr Lys Thr Val Ser Phe Pro	Leu Val Leu	
225	230	235
Ser Ala Asp Gly Thr Gln Met Ser Asn Ala Thr Val Met	Leu Phe Pro	
245	250	255
Ser Ser Ala Lys Pro Met Phe Lys Leu Ile Ile Lys Leu	Lys Asn Gly	
260	265	270
Asn Thr Lys Val Tyr Gln Gln Pro Leu Asn Ala Pro	Leu Lys Ala Asn	
275	280	285
Asn Lys Leu Thr Leu Thr Leu Thr Leu Gly Asp Ile Phe	Ser Glu Glu	
290	295	300
Thr Ser Gly Gly Phe Thr Ile Asp Asn Trp Gln Glu Glu	Asn Glu Thr	
305	310	315
Ile Asp Ile Pro Thr Leu Glu		320
	325	

&lt;210&gt; 6437

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6437

Val Pro Glu Gln Gln Lys Val Ala Gln Asp Phe	Ala Met Ser Glu Phe		
1	5	10	15
Ser Leu Ile Leu Val Leu Gln Lys Glu Asn Lys Gln Asn	Ser Asn Met		
20	25	30	
Thr Trp Gln Lys Tyr Lys Leu Asn Leu Arg Asn Ser	His Leu Leu Glu		
35	40	45	
Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro	Cys Phe His Pro Leu		
50	55	60	
Ser Thr Gln His Trp Val Arg Asp Ala Ala Val	Ser Ser Asp Ile Ser		
65	70	75	80
Ser Ala Arg			

&lt;210&gt; 6438

&lt;211&gt; 224

<212> PRT  
 <213> B.fragilis

&lt;400&gt; 6438

Asn	Lys	His	Asn	Gln	Lys	Val	Glu	Met	Lys	Lys	Val	Cys	Leu	Ser	Leu
1				5					10					15	
Leu	Met	Gly	Leu	Met	Val	Gln	Met	Thr	Phe	Gly	Gln	Thr	Leu	Glu	Lys
				20					25					30	
Met	Gln	Trp	Phe	Asn	Glu	Pro	Glu	Gln	Trp	Glu	Ile	Lys	Asn	Asn	Val
				35				40				45			
Leu	Ser	Met	Ser	Val	Thr	Pro	Gln	Ser	Asp	Tyr	Trp	Arg	Ile	Ser	His
				50				55				60			
Tyr	Gly	Phe	Thr	Val	Asp	Asp	Ala	Pro	Phe	Tyr	Tyr	Ala	Thr	Tyr	Gly
	65				70				75				80		
Gly	Glu	Phe	Glu	Ala	Lys	Val	Lys	Val	Gly	Glu	Tyr	Lys	Glu	Arg	
				85				90				95			
Phe	Asp	Gln	Ala	Gly	Leu	Met	Leu	Arg	Ile	Asp	His	Glu	Asn	Tyr	Ile
				100				105				110			
Lys	Ala	Gly	Ile	Glu	Phe	Val	Asp	Gly	Lys	Phe	Asn	Leu	Ser	Thr	Val
	115					120						125			
Val	Thr	His	Lys	Thr	Ser	Asp	Trp	Ser	Val	Ile	Thr	Leu	Asp	Lys	Thr
	130					135					140				
Val	Pro	Tyr	Ile	Trp	Ile	Lys	Ala	Val	Arg	Arg	Leu	Asp	Ala	Val	Glu
	145					150			155				160		
Ile	Phe	Tyr	Ser	Phe	Asp	Asp	Lys	Thr	Tyr	Thr	Leu	Met	Arg	Asn	Ala
				165				170				175			
Trp	Leu	Gln	Asp	His	Ile	Pro	Val	Lys	Val	Gly	Leu	Met	Ala	Ala	Cys
				180				185				190			
Pro	Asp	Gly	Ser	Gly	Phe	Asn	Ala	Lys	Phe	Glu	Tyr	Phe	Gln	Val	Lys
	195					200					205				
His	Leu	Pro	Asp	Gln	Arg	Arg	Val	Glu	Trp	Leu	Lys	Lys	Asn	Ala	Glu
	210					215					220				

&lt;210&gt; 6439

<211> 229  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 6439

Ile	Leu	Asn	Lys	Ser	Arg	Ile	Leu	Arg	Lys	Ser	Pro	Arg	Ser	Ala	Leu
1				5				10				15			
Gly	Tyr	Ala	Trp	Gly	Asp	Phe	Phe	Ile	Thr	His	Ser	Arg	Met	Ile	Lys
				20				25				30			
Lys	Met	Lys	Gly	Ile	Trp	Pro	Glu	Val	Phe	Pro	Ala	Val	Phe	Glu	Glu
				35				40				45			
Gly	Gly	Leu	Tyr	Pro	Cys	His	Pro	Lys	Arg	Glu	Leu	Pro	Leu	Lys	Arg
				50				55			60				
Asp	Gly	Ala	Asn	Pro	Lys	Leu	Lys	Gly	Arg	Thr	Ile	Asn	Leu	Gln	Asn
	65				70				75			80			
Ala	Val	Lys	Lys	Cys	Asn	Arg	Leu	Cys	Pro	Leu	Arg	Tyr	Asp	Ser	Ile
				85				90				95			
Thr	Val	Ser	Glu	Gly	Arg	Phe	Met	Phe	Asn	Gly	Lys	Val	Thr	Ala	Pro
				100				105				110			
Gln	Val	Arg	Glu	Leu	Phe	Ile	Gln	Glu	Thr	Asp	Ser	Asp	Arg	Phe	Pro
				115				120				125			
Val	Thr	Leu	Pro	Val	Val	Leu	Asp	Pro	Gly	Glu	Ile	Asn	Ala	Lys	Ile
	130					135					140				
Gly	Asp	Ile	Val	Leu	Val	Glu	Gly	Ser	Gly	Leu	Asn	Glu	Glu	Met	Met
	145					150				155			160		

Gln Thr Leu Met Ala Leu Asp Glu Phe Arg Gly Arg Asp Phe Thr Gly  
           165                 170                 175  
 Lys Glu Ile Asn Glu Ile Lys Glu Ala Phe Gly Gly Phe Val Leu Glu  
           180                 185                 190  
 Gln Ile Val Lys His Ala Gly Ser Pro Val Gly Asn Tyr Leu Tyr Glu  
           195                 200                 205  
 Ala Tyr Gln Asn Lys Leu Asn Glu Lys Gln Gln Ala Glu Ala Arg Lys  
           210                 215                 220  
 Thr Leu Gly Ile Gly  
 225

&lt;210&gt; 6440

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6440

Leu Ile Asn Lys Gly Val Met Lys Asn Tyr Gln Lys Lys Ser Val Ala  
 1              5                 10                 15  
 Gln Asp Ala Arg Val Glu Leu His Asp Ser Leu Ala Leu Thr Gly Ala  
           20                 25                 30  
 Glu Val Ser Ile Asn His Leu Pro Ala Gly Ala Gly Val Pro Phe Val  
           35                 40                 45  
 His Ser His Lys Gln Asn Glu Glu Ile Tyr Gly Ile Leu Ser Gly Lys  
           50                 55                 60  
 Gly Phe Ile Thr Ile Asp Gly Glu Lys Ile Glu Leu Gln Ala Gly Asp  
           65                 70                 75                 80  
 Trp Leu Arg Ile Ala Pro Asp Gly Lys Arg Gln Ile Ser Ala Ala Ser  
           85                 90                 95  
 Asp Ser Pro Ile Gly Phe Ile Cys Ile Gln Val Lys Ala Gly Ser Leu  
           100                105                 110  
 Glu Gly Tyr Thr Met Thr Asp Gly Val Val Gln  
           115                120

&lt;210&gt; 6441

&lt;211&gt; 314

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6441

Asn Lys Asn Lys Met Lys Glu Lys Asp Leu Ile Arg Phe Met Asp Arg  
 1              5                 10                 15  
 Met Ile Glu Glu Arg Lys Ala Glu Tyr Ala Leu Gly Thr Ala His Ile  
           20                 25                 30  
 Tyr Gln Ala Ser Arg Asn Ala Leu Ser Ala Phe Leu Lys Ala His Asp  
           35                 40                 45  
 Ile Pro Phe Lys Arg Val Arg Pro Glu Leu Leu Lys Gln Phe Glu Arg  
           50                 55                 60  
 Phe Leu Arg Arg Gly Asn Ser Trp Asn Thr Val Ser Thr Tyr Met  
           65                 70                 75                 80  
 Arg Val Leu Arg Ala Val Tyr Asn Arg Ala Val Asp Arg Arg Leu Ala  
           85                 90                 95  
 Pro His Val Pro His Leu Phe Lys Ala Val Tyr Thr Gly Thr Gln Ala  
           100                105                 110  
 Asp Ile Lys Arg Ala Leu Lys Ala Glu Glu Met Gly Gln Leu Leu Asp  
           115                120                 125  
 Thr Lys Cys Thr Arg Lys Gln Ser Glu Leu Leu Gln Lys Thr His His  
           130                135                 140  
 Leu Phe Val Leu Met Phe Leu Leu Arg Gly Leu Pro Phe Val Asp Leu

145	150	155	160
Ala	Tyr	Ile	Gln
Lys	Lys	Asp	Leu
Asn	Gly	Asn	Ile
Ile	Leu	Thr	Tyr
165	170	175	
Arg	Arg	Lys	Thr
Gly	Arg	Gln	Ile
Ile	Thr	Thr	Val
180	185	190	
Met	Asn	Ile	Ile
Arg	Glu	Tyr	Met
Tyr	Met	Asp	Thr
195	200	205	
Leu	Phe	Pro	Ile
Ile	Leu	Ser	Ala
Glu	Gly	Gly	Glu
Asp	Thr	Ile	Tyr
210	215	220	
Glu	Tyr	Gln	Gln
Ala	Leu	Arg	Ile
Phe	Asn	Tyr	Gln
225	230	235	240
Gly	Glu	Leu	Leu
Gly	Leu	Thr	Thr
Leu	Thr	Glu	Leu
245	250	255	
His	Thr	Trp	Ala
260	265	270	
Ile	Arg	Glu	Ala
Ala	Met	Gly	His
275	280	285	
Leu	Lys	Pro	Phe
Ile	Lys	Asn	Ile
290	295	300	
Ile	Ser	Tyr	Ala
Lys	Arg	Ser	Phe
305	310		Gly

&lt;210&gt; 6442

&lt;211&gt; 76

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6442

Asn	Met	His	Asn	Met	Asp	Asn	Lys	Gln	Glu	Arg	Thr	Val	Val	His	Val
1				5				10				15			
Glu	Tyr	Asn	Gly	Gln	His	Tyr	Tyr	Phe	Gly	Ser	Leu	Ser	Ala	Ile	Tyr
					20			25				30			
Thr	Lys	Phe	Ser	Pro	Lys	Asp	Leu	Gly	Ile	Ala	Leu	Gly	Thr	Leu	Arg
					35			40				45			
Asn	Tyr	Gly	Leu	Lys	Glu	Glu	Lys	Pro	Tyr	Gln	Asn	Ser	Leu	Cys	Thr
					50			55			60				
Ile	Arg	Lys	Gly	Phe	Leu	Ile	Thr	Met	Pro	Lys	Lys				
					65			70			75				

&lt;210&gt; 6443

&lt;211&gt; 91

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6443

Pro	Val	Cys	Lys	Asp	Lys	Pro	Phe	Pro	Leu	Leu	Ser	Gln	Met	Ile	Thr
1						5			10				15		
Ile	Glu	Lys	Met	Asn	Glu	Gln	Gln	Leu	Phe	Ile	Lys	Ile	Gly	Asp	Lys
						20			25			30			
Ile	Lys	Glu	Ile	Arg	Leu	Glu	Lys	Gly	Ile	Ser	Gln	Gln	Asp	Leu	Ala
						35			40			45			
Ala	Lys	Cys	Asn	Phe	Glu	Lys	Ala	Asn	Met	Ser	Arg	Ile	Glu	Ala	Gly
						50			55			60			
Arg	Thr	Asn	Leu	Thr	Ile	Lys	Asn	Ala	Tyr	Lys	Ile	Ser	Leu	Ala	Leu
						65			70			75			80
Gly	Val	Arg	Leu	Lys	Asp	Leu	Leu	Asp	Val	Glu					
					85			90							

&lt;210&gt; 6444

<211> 60  
<212> PRT  
<213> B.fragilis

<400> 6444  
Thr Asp Leu Asn Lys Lys Thr Leu Gly Arg Arg Glu Phe Leu Ile Gly  
1 5 10 15  
Cys Cys Leu Tyr Arg Lys Glu Pro Ile Lys Pro Thr Asn Ile Met Lys  
20 25 30  
Glu Phe Met Leu Ile Ala Ser Leu Val Leu Ser Phe Cys Ile Leu Ile  
35 40 45  
Leu Cys Arg Asp Tyr Ile Val Phe Met Leu Lys Lys  
50 55 60

<210> 6445  
<211> 153  
<212> PRT  
<213> B.fragilis

<400> 6445  
Arg Met Ala Lys Ile Glu Asn Lys Thr Lys Glu Asn Pro Lys Leu Glu  
1 5 10 15  
Gln Asn Lys Leu Ser Asp Gly Arg Ile Ser Leu Tyr Leu Glu Tyr Tyr  
20 25 30  
Leu Gly Arg Glu Glu Lys Pro Val Leu Asp Ala Asn Gly Asn Gln Val  
35 40 45  
Tyr Tyr Glu Asp Gly Lys Met Gln Gly Lys Pro Lys Phe Ser Val Lys  
50 55 60  
His Asn Arg Arg Lys Glu Asn Leu Asn Leu Tyr Leu Met Asp Lys Pro  
65 70 75 80  
Arg Thr Pro Ala Lys Arg Gln Gln Asn Lys Glu Thr Leu Glu Leu Ala  
85 90 95  
Thr Lys Ile Arg Ala Glu Arg Glu Gln Glu Phe Lys Glu Ser Met Leu  
100 105 110  
Gly Tyr Arg Leu Lys Lys Asp Cys Thr Ile Asn Phe Leu Asp Tyr Phe  
115 120 125  
Gln Ala Tyr Ile Asp Ser Tyr Thr Lys Lys Asp Cys Ala Trp Cys Lys  
130 135 140  
Leu His Leu Ala Val Ser Lys Thr Ser  
145 150

<210> 6446  
<211> 63  
<212> PRT  
<213> B.fragilis

<400> 6446  
Ser Ile Gln Asn His Ser Gln Ser His Tyr Ile Leu Gly Lys Trp Glu  
1 5 10 15  
Gly Arg Cys Trp Asp Ile Glu Asp Phe Ile Ile Ser Leu Asn Tyr Gln  
20 25 30  
Ser Lys Leu Gln Leu Thr Ile Tyr Pro Gln Gln Tyr Leu Ala Gln Ser  
35 40 45  
Glu Arg Glu Val Gln Leu Gln Thr Asn Ser Asn Asn Asn Thr Asn  
50 55 60

<210> 6447  
<211> 848  
<212> PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6447

Thr Asn Arg Lys Met Lys Asn Ala Ile Val Ser Leu Leu Leu Leu  
 1 5 10 15  
 Met Val Thr Gln Tyr Val Thr Ala Gln Lys Lys Val Ile Lys Ile Ala  
 20 25 30  
 Cys Ile Gly Asn Ser Ile Thr Tyr Gly Val Gly Thr Arg Asn Pro Ala  
 35 40 45  
 Lys Asp Ser Tyr Pro Ala Val Leu Gly Gln Met Leu Gly Asp Gly Tyr  
 50 55 60  
 Glu Val Arg Asn Phe Gly Val Ser Ala Arg Thr Met Leu Met Lys Gly  
 65 70 75 80  
 Asp His Pro Tyr Met Lys Glu Glu Arg Tyr Arg Gln Ala Leu Ala Tyr  
 85 90 95  
 Asn Pro Asp Ile Val Thr Ile Lys Leu Gly Thr Asn Asp Thr Lys Pro  
 100 105 110  
 Gln Asn Trp Arg Tyr Lys Ser Asp Phe Lys Lys Asp Met Glu Thr Met  
 115 120 125  
 Ile Arg Thr Ile Arg Ala Leu Pro Ser Lys Pro Glu Ile Tyr Leu Cys  
 130 135 140  
 Tyr Pro Ile Pro Ala Tyr Ala Val Gln Trp Gly Ile Asn Asp Ser Thr  
 145 150 155 160  
 Ile Val His Gly Val Met Pro Val Ile Asp Gln Leu Ala Ala Lys Tyr  
 165 170 175  
 Arg Leu Lys Val Ile Asp Leu His Thr Pro Leu Ile Gly Met Lys Glu  
 180 185 190  
 Cys Phe Ala Asp His Val His Pro Asn Glu Lys Ala Ala Ala Cys Ile  
 195 200 205  
 Ala Arg Val Ile Tyr Arg Gln Leu Thr Gly Lys Glu Ala Pro Glu His  
 210 215 220  
 Val Ser Gln Pro Phe Pro Gly His Lys Ser Lys Trp Gln Gly Phe Asp  
 225 230 235 240  
 Gln Tyr Thr Phe Thr Tyr Gln Asp Arg Gln Ala Ile Val Val Cys Pro  
 245 250 255  
 Glu Arg Ala Ala Ala Gly Asn Pro Trp Ile Trp Arg Pro Ala Phe Phe  
 260 265 270  
 Gly Ala Phe Ala Ser Val Asp Glu Ala Leu Leu Lys Arg Gly Phe His  
 275 280 285  
 Val Ala Tyr Tyr Asp Leu Thr His Leu Tyr Gly Ser Pro Arg Ala Arg  
 290 295 300  
 Lys Ser Gly Thr Asp Phe Tyr Trp Asn Met Val Gln Met Tyr Gly Leu  
 305 310 315 320  
 Ser Pro Arg Val Thr Leu Glu Gly Phe Ser Arg Gly Gly Leu Phe Ala  
 325 330 335  
 Tyr Asn Trp Ala Ala Asp His Pro Asp Lys Val Ala Cys Ile Tyr Val  
 340 345 350  
 Asp Ala Pro Val Cys Asp Val Phe Ser Trp Pro Gly Arg Ser Ser Gly  
 355 360 365  
 Asn Ala Gly Leu Trp Lys Gly Met Leu Asp Glu Trp Gly Leu Thr Glu  
 370 375 380  
 Ala Arg Met Asn Thr Phe Pro Gly Asn Pro Ile Asp Arg Leu Lys Pro  
 385 390 395 400  
 Leu Ala Asp Ala Arg Ile Pro Val Ile Cys Val Cys Gly Asp Ser Asp  
 405 410 415  
 Arg Val Val Pro Phe Ser Glu Asn Ser Ala Val Val Arg Gln Arg Tyr  
 420 425 430  
 Thr Ala Met Gly Ala Pro Phe Glu Leu Ile Leu Lys Pro Gly Val Asp  
 435 440 445

His His Pro His Ser Leu Glu Asn Pro Thr Pro Val Val Asp Phe Ile  
 450 455 460  
 Val Arg His Gln Ala Gly Tyr Glu Ala Gly Gln Cys Tyr Thr Leu Arg  
 465 470 475 480  
 Gly Asn Tyr Gln Asn Ser Tyr Arg Lys Phe Glu Lys Glu Arg Val Gly  
 485 490 495  
 Thr Val Ala Phe Leu Gly Gly Ser Ile Thr Glu Met Lys Gly Trp Arg  
 500 505 510  
 Asp Met Ile Cys Glu Asp Leu Lys Gln Arg Phe Pro Tyr Thr Lys Phe  
 515 520 525  
 Thr Phe Val Ala Ala Gly Ile Pro Ser Thr Gly Ser Thr Pro Gly Ala  
 530 535 540  
 Phe Arg Leu Thr Asp Asp Val Leu Ser Lys Gly Lys Val Asp Leu Leu  
 545 550 555 560  
 Phe Val Glu Ala Ala Val Asn Asp Asp Thr Asn Gly Phe Ser Ala Ile  
 565 570 575  
 Glu Gln Val Arg Gly Met Glu Gly Ile Val Arg His Ala Leu Val Ser  
 580 585 590  
 Asn Pro Ser Met Asp Ile Met Met Leu His Phe Ile Tyr Asp Pro Phe  
 595 600 605  
 Ile Pro Lys Leu Asp Lys Gly Gln Met Pro Asp Val Ile Leu Asn His  
 610 . 615 620  
 Glu Arg Val Ala Asn His Tyr Leu Leu Pro Ser Val Asn Leu Ala Ser  
 625 630 635 640  
 Glu Ile Ala Ala Arg Met Arg Ser Gly Glu Phe Thr Trp Glu Gln Phe  
 645 650 655  
 Gly Gly Thr His Pro Asn Pro Leu Gly His Ala Tyr Tyr Ala Ala Thr  
 660 665 670  
 Ile Asn Lys Val Leu Asp Glu Met Tyr Ala Pro Cys Ala Thr Ala Lys  
 675 680 685  
 Asp Ala Ala Lys Pro His Ala Leu Pro Ala Val Pro Leu Asp Ala Tyr  
 690 695 700  
 Ser Tyr Thr Asn Gly Arg Leu Val Asp Ile Arg Gln Ala His Ile Gly  
 705 710 715 720  
 Lys Gly Trp Gln Leu Val Ala Pro Trp Thr Pro Arg Leu Ala Ala Glu  
 725 730 735  
 Thr Arg Pro Gly Phe Val Asp Val Pro Met Leu Glu Thr Asn Arg Pro  
 740 745 750  
 Gly Ala Lys Leu Thr Leu Asp Phe Glu Gly Thr Ala Val Gly Ile Phe  
 755 760 765  
 Cys Val Ser Gly Pro Ala Ala Gly Ile Leu Glu Tyr Ser Val Asp Gly  
 770 775 780  
 Ala Pro Phe Lys Lys Leu Asp Thr Phe Thr Ala Trp Ser Gly Gly Leu  
 785 790 795 800  
 Tyr Ile Pro Trp Val Tyr Met Phe Asp Thr Glu Leu Pro Met Gly Lys  
 805 810 815  
 His Arg Leu Thr Leu Arg Met Ser Lys Asp His His Pro Gln Ser Lys  
 820 825 830  
 Gly Thr Ser Cys Gln Ile Arg Gln Phe Val Val Asn Asp Ser Cys Glu  
 835 840 845

&lt;210&gt; 6448

&lt;211&gt; 73

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6448

Arg Arg Thr Leu Glu Leu Trp Asp Arg Asp Val Glu Arg Trp Ile Asn	
1	5
	10
	15

Ser Glu Arg Val Pro Val Tyr Ser Pro Ile Thr Tyr Phe Leu Tyr Asp  
     20                 25                 30  
 Leu Pro Arg Trp Asp Gly Lys Asp Tyr Ile Arg Ala Leu Ala Arg Tyr  
     35                 40                 45  
 Val Arg Thr Phe Arg Arg Ile Gly Tyr Lys Arg Thr Glu Ala Leu Cys  
     50                 55                 60  
 Phe Val His Ser Asp Gln Gln Ser Gln  
     65                 70

&lt;210&gt; 6449

&lt;211&gt; 397

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6449

Thr Leu Met Lys Leu Met Ala Met Leu Leu Leu Ala Gly Ser Ile  
     1               5               10               15  
 Gln Gly Val Tyr Ala Gln Lys Thr Glu Lys Lys Glu Met Phe Leu Glu  
     20               25               30  
 Asn Lys Ser Leu Tyr Glu Glu Leu Thr Asn Val Gln Lys Lys Thr Asp  
     35               40               45  
 Lys Phe Asn Leu Tyr Leu Asn Met Gln Gly Ser Phe Asp Ala Asn Phe  
     50               55               60  
 Arg Asp Gly Phe Asp Glu Gly Val Phe Lys Met Arg Gln Leu Arg Ile  
     65               70               75               80  
 Glu Ala Lys Gly Asn Leu Asn Ser Trp Leu Ser Tyr Arg Tyr Arg Gln  
     85               90               95  
 Arg Leu Asn Arg Ser Asn Glu Gly Gly Met Ile Asp Asn Ile Pro  
     100              105              110  
 Thr Ser Ile Asp Tyr Ala Gly Ile Gly Val Lys Leu Asn Asp Gln Phe  
     115              120              125  
 Ser Phe Phe Ala Gly Lys Gln Cys Thr Ala Tyr Gly Gly Phe Glu Phe  
     130              135              140  
 Asp Leu Asn Pro Ile Asp Ile Tyr Gln Tyr Ser Asp Met Ile Glu Asn  
     145              150              155              160  
 Met Ser Asn Phe Met Thr Gly Leu Asn Ile Gly Tyr Asn Ile Thr Pro  
     165              170              175  
 Thr Gln Gln Leu Asn Leu Gln Ile Leu Asn Ser Arg Asn Ser Ser Phe  
     180              185              190  
 Asp Lys Thr Tyr Gly Ile Thr Glu Asp Ser Glu Gly Lys Leu Pro Asp  
     195              200              205  
 Leu Lys Ser Gly Lys Met Pro Leu Val Tyr Thr Leu Asn Trp Asn Gly  
     210              215              220  
 Asn Phe Asn Glu Val Phe Lys Thr Arg Trp Ser Ala Ser Val Met Ser  
     225              230              235              240  
 Glu Ala Lys Gly Lys Asn Leu Tyr Tyr Tyr Ala Val Gly Asn Glu Leu  
     245              250              255  
 Asn Leu Asp Lys Phe Asn Met Phe Val Asp Phe Met Tyr Ser Gln Glu  
     260              265              270  
 Gly Ile Asp Arg Asn Gly Thr Ile Thr Gly Ile Val Gly Asn Ala Gly  
     275              280              285  
 Gly His Asn Ala Phe Asn Ala Gly Tyr Leu Ser Val Val Thr Lys Leu  
     290              295              300  
 Asn Tyr Arg Phe Leu Pro Lys Trp Asn Ala Phe Val Lys Gly Met Tyr  
     305              310              315              320  
 Glu Thr Ala Ser Val Thr Lys Ala Ala Asp Gly Ile Glu Lys Gly Asn  
     325              330              335  
 Tyr Arg Thr Ser Trp Gly Tyr Leu Ala Gly Val Glu Phe Tyr Pro Met  
     340              345              350

Lys Thr Asn Leu His Phe Phe Leu Thr Tyr Val Gly Arg Ser Tyr Asp  
           355                 360                 365  
 Phe Thr His Arg Ala Lys Val Leu Gly Gln Glu Asn Tyr Ser Thr Asn  
           370                 375                 380  
 Arg Leu Ser Leu Gly Phe Ile Tyr Gln Leu Pro Met Phe  
           385                 390                 395

<210> 6450

<211> 62

<212> PRT

<213> B.fragilis

<400> 6450

Val Thr Arg Lys Asn Asn Ile Gly Arg Asn Ile Leu Ser Ser Gln Glu  
   1                 5                 10                 15  
 Ile Ser Asp Ser Tyr Glu Arg Lys Asn Ile Lys Tyr Arg Asp Arg Pro  
   20                 25                 30  
 Ser Met Gln Leu Leu Pro Gly Leu Gln Asn Thr Pro Ser Ala Gly Lys  
   35                 40                 45  
 Cys Asn Arg Pro Val Lys Glu Arg Ser Gly Thr Ala Asn Tyr  
   50                 55                 60

<210> 6451

<211> 178

<212> PRT

<213> B.fragilis

<400> 6451

Thr Glu Arg Lys Lys Asn Met Glu Asn Val Ile Gln Ile Gln Tyr Tyr  
   1                 5                 10                 15  
 Gln Ser Pro Cys Gly Glu Leu Ile Leu Gly Ala Tyr Arg Glu Lys Leu  
   20                 25                 30  
 Cys Leu Cys Asp Trp Lys Ile Glu Glu Arg Arg Ile Ile Asp Arg  
   35                 40                 45  
 Arg Ile Gln Lys Glu Leu Gln Ala Ser Tyr Lys Glu Gly Ile Ser Glu  
   50                 55                 60  
 Val Ile Thr Arg Thr Ile Gly Gln Leu Asp Glu Tyr Phe Ala Gly Arg  
   65                 70                 75                 80  
 Arg Thr Thr Phe Asp Ile Pro Leu Leu Leu Val Gly Thr Asp Phe Gln  
   85                 90                 95  
 Lys Thr Val Trp Asn Glu Leu Leu Asn Ile Pro Tyr Gly Lys Thr Ile  
   100                 105                 110  
 Ser Tyr Ala Gly Leu Ser Gln Lys Leu Gly Asn Pro Lys Ala Ile Arg  
   115                 120                 125  
 Ala Ile Ala Ser Ala Asn Gly Ala Asn Pro Ile Ser Ile Leu Val Pro  
   130                 135                 140  
 Cys His Arg Val Ile Gly Ser Asp Arg Lys Leu Val Gly Tyr Gly Gly  
   145                 150                 155                 160  
 Gly Leu Pro Ala Lys Lys Ile Leu Leu Asp Leu Glu Ser Ser Asp Arg  
   165                 170                 175  
 Leu Phe

<210> 6452

<211> 200

<212> PRT

<213> B.fragilis

<400> 6452

Cys Val Asn Leu Asp Arg Asn Asn Lys His Thr Ile Ile Met Lys Lys  
 1 5 10 15  
 Ser Leu Val Tyr Thr Lys Thr Gly Asp Lys Gly Thr Thr Gly Leu Ile  
 20 25 30  
 Gly Gly Thr Arg Val Pro Lys Thr His Ile Arg Leu Glu Ala Tyr Gly  
 35 40 45  
 Thr Val Asp Glu Leu Asn Ser Asn Leu Gly Leu Leu Ala Thr Tyr Leu  
 50 55 60  
 Met Asp Glu His Asp Leu Asn Phe Val Gln Ser Val Gln Asp Lys Leu  
 65 70 75 80  
 Phe Ala Ile Gly Ser His Leu Ala Thr Asp Gln Glu Lys Val Gln Leu  
 85 90 95  
 Asn Asp Val Ser Ile Ile Thr Pro Ala Glu Val Glu Ala Ile Glu Arg  
 100 105 110  
 Glu Ile Asp Ala Ala Asp Glu Ile Leu Pro Pro Leu His Ser Phe Ile  
 115 120 125  
 Ile Pro Gly Gly Ser Arg Gly Ser Ala Val Cys His Val Cys Arg Thr  
 130 135 140  
 Val Cys Arg Arg Ala Glu Arg Arg Ile Leu Ala Leu Ser Glu Ser Cys  
 145 150 155 160  
 Thr Ile Ser Ala Asp Leu Leu Ala Tyr Ile Asn Arg Leu Ser Asp Tyr  
 165 170 175  
 Leu Phe Val Leu Ser Arg Lys Met Asn Phe Asn Glu Gly Lys Asp Glu  
 180 185 190  
 Ile Phe Trp Asn Asn Ser Cys Lys  
 195 200

&lt;210&gt; 6453

&lt;211&gt; 78

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6453

Glu Ile Asn Asp His Leu Thr Tyr His Ile Pro Ala Ile Tyr Ala Leu  
 1 5 10 15  
 His Ser Lys Cys Thr Glu Phe Pro Asp Glu Thr Ser Arg Arg Val Thr  
 20 25 30  
 Lys Ile Thr Phe Tyr Phe Leu Phe Leu Pro Lys Asp Leu Thr Thr Ala  
 35 40 45  
 Lys Asn Ile Asn Ile Arg Ile Phe Ser Thr Ala Ile Asp Phe His Tyr  
 50 55 60  
 Ile Gln Ser Leu Gln Ser Leu Thr Phe Arg Ser His Thr Pro  
 65 70 75

&lt;210&gt; 6454

&lt;211&gt; 92

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6454

Arg Arg Ala Asp Pro Arg Thr Leu Pro Glu Leu Leu Ile Glu Lys His  
 1 5 10 15  
 Asp Ile Leu Ile Glu Lys Ile Gly Thr Arg Leu Lys Thr His Ala Thr  
 20 25 30  
 Glu Thr Asp Ile Ala Arg Leu Phe Ile Ala Leu Val Glu Tyr Arg Phe  
 35 40 45  
 Met Arg Lys Cys Pro Ile Lys Thr Phe Arg Asn Ala Cys Thr Thr Ser  
 50 55 60  
 Leu Met Asn Lys Lys Ser Phe Met Lys Glu Val Phe Arg Lys His Thr

65

70

75

80

Lys Ile Ser Phe Arg His Leu Glu Thr Ala Lys Ser  
 85 90

&lt;210&gt; 6455

&lt;211&gt; 172

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6455

Ile Leu Leu Glu Leu Asp Gln Gly Glu Arg Val Met Asn Asp Arg Lys  
 1 5 10 15  
 Ile Leu Val Ala Tyr Phe Ser Cys Ser Gly Val Thr Lys Ala Val Ala  
 20 25 30  
 Glu Lys Leu Ala Ala Ile Thr Gly Ala Asp Leu Tyr Glu Ile Lys Pro  
 35 40 45  
 Glu Val Pro Tyr Thr Glu Ala Asp Leu Asp Trp Asn Asp Lys Lys Ser  
 50 55 60  
 Arg Ser Ser Val Glu Met Arg Asp Ala Leu Ser Arg Pro Ala Ile Ser  
 65 70 75 80  
 Gly Thr Leu Phe His Pro Glu Glu Tyr Glu Val Leu Phe Val Gly Phe  
 85 90 95  
 Pro Val Trp Trp Tyr Ile Ala Pro Thr Ile Ile Asn Thr Phe Leu Glu  
 100 105 110  
 Ser Tyr Asp Phe Ala Gly Lys Ile Val Val Pro Phe Ala Thr Ser Gly  
 115 120 125  
 Gly Ser Gly Ile Gly Asn Cys Glu Lys Asn Leu His Lys Ala Tyr Pro  
 130 135 140  
 Asp Ile Val Trp Lys Asp Gly Lys Leu Leu Asn Gly Arg Ile Thr Arg  
 145 150 155 160  
 Asp Leu Val Thr Glu Trp Phe Glu Lys Ile Arg Leu  
 165 170

&lt;210&gt; 6456

&lt;211&gt; 448

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6456

Asn Val Ala Asp Phe Arg Ser Leu His Phe Leu Arg Arg Gln Asn His  
 1 5 10 15  
 Phe Met Ile Asn Glu Ser Pro Ala Leu Ala Ser Gly Ile Phe Cys Ile  
 20 25 30  
 Phe Val Leu Thr Met Lys Lys Tyr Val Asp Val Ile Leu Pro Leu Pro  
 35 40 45  
 Leu Pro Arg Cys Phe Thr Tyr Ser Leu Pro Asp Glu Gly Ala Glu Glu  
 50 55 60  
 Val Gln Ile Gly Cys Arg Val Val Pro Phe Gly Arg Lys Lys Tyr  
 65 70 75 80  
 Tyr Thr Ala Ile Val Arg Asn Val His His Tyr Ala Pro Thr Glu Tyr  
 85 90 95  
 Glu Val Lys Glu Ile Ser Thr Val Leu Asp Thr Ser Pro Ile Leu Leu  
 100 105 110  
 Pro Gly Gln Phe Arg Phe Trp Glu Trp Leu Ala Asp Tyr Tyr Leu Cys  
 115 120 125  
 Thr Gln Gly Asp Val Tyr Lys Ala Ala Leu Pro Ser Gly Leu Lys Leu  
 130 135 140  
 Glu Ser Glu Thr Ile Val Glu Tyr Asn Pro Asp Phe Glu Ala Asp Ala  
 145 150 155 160

Pro Leu Ser Glu Arg Glu Gln Leu Val Leu Asp Leu Leu Ala Lys Glu  
                  165                 170                 175  
 Pro Glu Gln Cys Val Thr Lys Leu Glu Lys Glu Ser Gly Leu Lys Asn  
                  180                 185                 190  
 Ile Leu Thr Val Ile Lys Ser Leu Leu Asp Lys Glu Ala Leu Phe Val  
                  195                 200                 205  
 Lys Glu Glu Leu Arg Arg Thr Tyr Lys Pro Lys Thr Glu Ala Arg Val  
                  210                 215                 220  
 Arg Leu Ala Ala Asp Ala Ser Gly Glu Glu Asn Leu Arg Arg Ile Phe  
                  225                 230                 235                 240  
 Asp Glu Leu Glu Arg Ala Pro Lys Gln Leu Ala Leu Leu Met Lys Tyr  
                  245                 250                 255  
 Val Glu Leu Ser Gly Val Leu Gly Asp Gly Ala Ser Lys Glu Val Ser  
                  260                 265                 270  
 Lys Lys Glu Leu Leu Gln Arg Ala Ser Ala Ser Pro Ala Ile Phe Asn  
                  275                 280                 285  
 Gly Leu Val Glu Lys Gln Ile Phe Glu Val Tyr Tyr Gln Glu Ile Gly  
                  290                 295                 300  
 Arg Leu Asn Arg Leu Val Gly Lys Thr Val Glu Leu Asn Val Leu Asn  
                  305                 310                 315                 320  
 Glu His Gln Gln Arg Ala Tyr His Glu Phe Met Gln Ser Phe Gln Glu  
                  325                 330                 335  
 Lys Asn Val Cys Leu Leu His Gly Val Thr Ser Ser Gly Lys Thr Glu  
                  340                 345                 350  
 Val Tyr Ile His Leu Ile Glu Glu Thr Leu Arg Gln Gly Arg Gln Val  
                  355                 360                 365  
 Leu Tyr Leu Leu Pro Glu Ile Ala Leu Thr Thr Gln Ile Thr Glu Arg  
                  370                 375                 380  
 Leu Lys Arg Val Phe Gly Ser Arg Val Gly Asn Leu Ser Leu Gln Val  
                  385                 390                 395                 400  
 Pro Arg Arg Arg Glu Ser Arg Asp Leu Ala Lys Ala Val Asp Gly Gly  
                  405                 410                 415  
 Gly Leu Arg His His Ser Gly Gly Thr Leu Phe Gly Val Pro Pro Val  
                  420                 425                 430  
 Ser Glu Ser Arg Thr Gly His Cys Gly Arg Gly Thr Arg Lys Tyr Val  
                  435                 440                 445

&lt;210&gt; 6457

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6457

Lys Thr Lys Glu Glu Tyr Ser Met Ile Lys Lys Leu Cys Ile Ile Leu  
                  1                 5                 10                 15  
 Leu Ser Val Cys Thr Val Ala Pro Val Met Ala Gln Gln Tyr Ser Ser  
                  20                 25                 30  
 Ser Asp Asp Ala Ser Phe Ala Pro Lys Lys Gly Gln Trp Gln Val Ser  
                  35                 40                 45  
 Met Val Met Gly Ser Ser Gln Met Phe Asn Asn Asn Thr Glu Asn Tyr  
                  50                 55                 60  
 Leu Leu Pro Thr Tyr Trp Asn Gly Gln Asn Phe Ser Phe Pro Asn Val  
                  65                 70                 75                 80  
 Gly Leu Gly Asn Asn Thr Ser Gly Asn Gln Ser Ser Asp Pro Ala Thr  
                  85                 90                 95  
 Tyr Leu Gln Leu Gly Asp Leu Asn Ser Asn Asn Leu Val Asn Ile Ile  
                  100                 105                 110  
 Gly Ile Gln Gly Lys Tyr Phe Leu Thr Asp Arg Trp Asp Val Asn Leu  
                  115                 120                 125

Met Phe Ser Met Asn Ile Gly Val Thr Pro Lys Asp Tyr Ile Glu  
 130 135 140  
 Gly Asp Lys Thr Val Thr Asp Met Gln Ile Pro Ala Leu Gln Tyr Leu  
 145 150 155 160  
 Glu Gly Arg Ile Lys Asn Asn Trp Ser Val Asn Ile Gly Ser Asn Tyr  
 165 170 175  
 Tyr Phe Asn Thr Lys Asn Glu Arg Ile Asn Leu Tyr Val Gly Gly Leu  
 180 185 190  
 Leu Gly Trp Gln Met Gly Arg Ile Glu Thr Thr Leu Pro Tyr Thr Gly  
 195 200 205  
 Ile Met Val Ser Asp Lys Asp Met Asn Thr Asp Gly Thr Asp Thr Asp  
 210 215 220  
 Leu Gln Pro Thr Pro Asp Glu Asn Gly Gln Asp Asn Gly Pro Val Val  
 225 230 235 240  
 Asp Asp Asn Asp Val Thr Gly Thr Pro Leu Glu Val Tyr Ile Pro Asn  
 245 250 255  
 Ser Arg Ala Gly Gln Ile Phe Gly Leu Arg Ala Ala Thr Val Ala Gly  
 260 265 270  
 Ile Glu Tyr Ser Ile Gly Lys Gly Leu Ile Leu Gly Phe Glu Val Gln  
 275 280 285  
 Pro Val Ala Tyr Arg Tyr Asp Met Ile Gln Ile Ile Pro Lys Gly Thr  
 290 295 300  
 Pro Val Tyr Lys Val Gly His His Asn Ile Asn Leu Phe Ala Leu Pro  
 305 310 315 320  
 Asn Leu Lys Leu Gly Phe Arg Phe  
 325

&lt;210&gt; 6458

&lt;211&gt; 323

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6458

Val Met Lys Glu Leu Lys Arg Leu Ser Phe Val Val Val Thr Leu Leu  
 1 5 10 15  
 Leu Ser Thr Met Met Ala Phe Ala Gln Lys Pro Asn Ile His Ile Leu  
 20 25 30  
 Ala Thr Gly Gly Thr Ile Ala Gly Thr Gly Gly Ser Ala Thr Ser Thr  
 35 40 45  
 Asn Tyr Thr Ala Gly Gln Val Ala Ile Ser Thr Leu Leu Asp Ala Val  
 50 55 60  
 Pro Glu Leu Lys Asp Ile Ala Asn Val Thr Gly Glu Gln Ile Val Arg  
 65 70 75 80  
 Ile Ala Ser Gln Asp Met Ser Asp Glu Val Trp Leu Ile Leu Ala Lys  
 85 90 95  
 Lys Ile Asn Gln Leu Leu Lys Arg Pro Asp Ile Asp Gly Ile Val Ile  
 100 105 110  
 Thr His Gly Thr Asp Thr Met Glu Glu Thr Ala Tyr Phe Leu Asn Leu  
 115 120 125  
 Thr Val Lys Ser Asn Lys Pro Val Val Leu Val Gly Ala Met Arg Pro  
 130 135 140  
 Ser Thr Ala Leu Ser Ala Asp Gly Pro Leu Asn Leu Tyr Asn Ala Val  
 145 150 155 160  
 Val Thr Ala Gly Ala Lys Glu Ser Ile Gly Lys Gly Val Leu Ile Ala  
 165 170 175  
 Met Asn Gly Leu Ile Leu Gly Ala Glu Ser Ala Ile Lys Met Asn Thr  
 180 185 190  
 Ile Asp Val Gln Thr Phe Gln Ala Pro Asn Ser Gly Ala Leu Gly Tyr  
 195 200 205

Ile Phe Asn Gly Lys Val Phe Tyr Asn Gln Ala Pro Leu Lys Lys His  
 210 215 220  
 Thr Thr Gln Ser Val Phe Asp Val Thr Asn Leu Asn Ser Leu Pro Lys  
 225 230 235 240  
 Val Gly Ile Val Tyr Ser Tyr Ser Asn Ile Asp Pro Asp Met Val Thr  
 245 250 255  
 Pro Leu Leu His His Asp Tyr Lys Gly Ile Ile His Ala Gly Val Gly  
 260 265 270  
 Asn Gly Asn Phe His Lys Asn Ile Leu Pro Val Leu Leu Glu Ala Arg  
 275 280 285  
 Lys Lys Gly Ile Leu Val Val Arg Ser Ser Arg Val Pro Thr Gly Pro  
 290 295 300  
 Thr Thr Met Asp Ala Glu Val Asp Asp Thr Gln Tyr Gln Phe Leu Leu  
 305 310 315 320  
 Leu Arg Asn

&lt;210&gt; 6459

&lt;211&gt; 392

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

<400> 6459

Lys Lys Gly Glu Lys Lys Asn Lys Arg Ser His Lys His Phe Tyr Phe  
 1 5 10 15  
 Gln Arg Ile Asn Arg Ile Leu Ala Glu Thr Phe Lys Thr Val Asn Ile  
 20 25 30  
 Met Thr Ser Lys Asp Asn Tyr Cys Val Ile Met Gly Gly Gly Ile Gly  
 35 40 45  
 Ser Arg Phe Trp Pro Phe Ser Arg Lys Thr Met Pro Lys Gln Phe Leu  
 50 55 60  
 Asp Phe Phe Gly Thr Gly Arg Ser Leu Leu Gln Gln Thr Phe Asp Arg  
 65 70 75 80  
 Phe Asn Lys Ile Ile Pro Thr Glu Asn Ile Leu Ile Val Thr Asn Ala  
 85 90 95  
 Ile Tyr Ala Asp Leu Val Lys Glu Gln Leu Pro Glu Leu Asp Pro Lys  
 100 105 110  
 Gln Ile Leu Leu Glu Pro Ala Arg Arg Asn Thr Ala Pro Cys Ile Ala  
 115 120 125  
 Trp Ala Ser Tyr His Ile Arg Ala Leu Asn Pro Asn Ala Asn Ile Val  
 130 135 140  
 Val Ala Pro Ser Asp His Leu Ile Leu Lys Glu Gly Glu Phe Leu Ala  
 145 150 155 160  
 Ala Ile Glu Lys Gly Leu Asp Phe Val Ser Lys Ser Asp Lys Leu Leu  
 165 170 175  
 Thr Leu Gly Ile Lys Pro Asn Arg Pro Glu Thr Gly Tyr Gly Ile  
 180 185 190  
 Gln Ile Ala Glu Gln Glu Gly Asp Asn Phe Tyr Lys Val Lys Thr Phe  
 195 200 205  
 Thr Glu Lys Pro Glu Leu Glu Leu Ala Lys Val Phe Val Glu Ser Gly  
 210 215 220  
 Glu Phe Tyr Trp Asn Ser Gly Leu Phe Met Trp Asn Val Asn Thr Ile  
 225 230 235 240  
 Ile Lys Ala Gly Glu Thr Leu Leu Pro Glu Leu Ala Ser Lys Leu Ala  
 245 250 255  
 Pro Gly Arg Glu Ile Tyr Gly Thr Pro Glu Glu Lys Asp Phe Ile Glu  
 260 265 270  
 Glu Asn Phe Pro Ala Cys Pro Asn Val Ser Ile Asp Phe Gly Ile Met  
 275 280 285

Glu Lys Ala Asp Asn Val Tyr Val Ser Leu Gly Asp Phe Gly Trp Ser  
 290 295 300  
 Asp Leu Gly Thr Trp Gly Ser Leu Tyr Asp Leu Ser Pro Lys Asp Glu  
 305 310 315 320  
 Gln Arg Asn Val Thr Leu Lys Cys Asp Ser Leu Ile Tyr Asn Ser Asn  
 325 330 335  
 Asp Asn Ile Val Val Leu Pro Lys Gly Lys Leu Ala Val Ile Glu Gly  
 340 345 350  
 Leu Glu Gly Phe Leu Val Ala Glu Ser Asp Asn Val Leu Leu Ile Cys  
 355 360 365  
 Lys Lys Asp Glu Glu His Ala Ile Arg Lys Tyr Val Asn Asp Ala Gln  
 370 375 380  
 Met Lys Leu Gly Glu Asp Tyr Ile  
 385 390

&lt;210&gt; 6460

&lt;211&gt; 197

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6460

Leu Phe Met Glu Ser Glu Lys Glu Lys Met Gly Thr Gly Arg Leu Tyr  
 1 5 10 15  
 Asp Ala Asn Tyr Asp Thr Glu Leu Ile Ala Glu Arg Gln Ala Cys Lys  
 20 25 30  
 Glu Leu Cys Tyr Thr Leu Asn His Leu Pro Pro Ser Gln Ile Ala Glu  
 35 40 45  
 Arg Glu Ala Ile Ile Arg Arg Leu Phe Cys Lys Thr Lys Glu Arg Phe  
 50 55 60  
 Leu Leu Glu Gln Pro Phe Tyr Cys Asp Tyr Gly Tyr Asn Ile Glu Ile  
 65 70 75 80  
 Gly Glu Asn Phe Tyr Ala Asn Met Asn Cys Val Ile Leu Asp Glu Ala  
 85 90 95  
 Lys Val Thr Phe Gly Asp Asn Val Phe Ile Ala Pro Ser Cys Gly Phe  
 100 105 110  
 Tyr Thr Ala Gly His Pro Leu Asp Val Glu Gln Arg Asn Arg Gly Leu  
 115 120 125  
 Glu Tyr Ala Arg Pro Ile Arg Val Gly Asn Asn Val Trp Ile Gly Ala  
 130 135 140  
 Gln Val Cys Val Leu Pro Gly Val Thr Ile Gly Asp Asn Thr Val Ile  
 145 150 155 160  
 Gly Ala Gly Ser Val Val Asn Arg Asp Ile Pro Ala Asn Val Ile Ala  
 165 170 175  
 Ala Gly Asn Pro Cys Arg Val Ile Arg Glu Ile Thr Glu Glu Asp Lys  
 180 185 190  
 Thr Lys Tyr Leu Leu  
 195

&lt;210&gt; 6461

&lt;211&gt; 462

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6461

Arg His Met Glu Lys Gln Asn Asn His Ile Asp Arg Arg Gly Phe Leu  
 1 5 10 15  
 Lys Ile Val Gly Ile Ser Ala Ala Thr Thr Thr Ala Ala Leu Tyr Gly  
 20 25 30  
 Cys Gly Ser Gly Thr Lys Ser Ser Gln Gly Arg Asn Ala Ser Ser Pro

35	40	45
Val Pro Thr Asp Gln Met	Thr Tyr Arg Ser Val	Gly Gly Ile Lys Asp
50	55	60
Lys Val Ser Leu Leu Gly	Tyr Gly Cys Met Arg	Trp Pro Thr Val Pro
65	70	75
Ser Pro Glu Gly Lys Gly	Asp Leu Ile Asn Gln	Glu Ala Val Asn Glu
85	90	95
Leu Val Asp Tyr Ala Ile Ala His	Gly Val Asn Tyr Phe	Asp Thr Ser
100	105	110
Pro Val Tyr Val Gln Gly	Trp Ser Glu Lys Ala	Thr Gly Ile Ala Leu
115	120	125
Lys Arg His Pro Arg Glu	Lys Leu Tyr Ile Ala	Thr Lys Leu Ser Asn
130	135	140
Phe Ser Asn Phe Ser Arg	Glu Asn Ser Leu Ala	Met Tyr His Gln Ser
145	150	155
Phe Lys Asp Met Gln Val	Glu Tyr Phe Asp Tyr	Tyr Leu Leu His Ala
165	170	175
Ile Gly Gly Gly Met Lys Val	Phe Asn Glu Arg	Tyr Ile Asp Asn
180	185	190
Gly Met Leu Asp Phe Leu Leu	Lys Glu Arg Glu Ala	Gly Arg Ile Arg
195	200	205
His Leu Gly Trp Ser Phe	His Gly Asp Val Glu	Val Phe Asp Gln Val
210	215	220
Leu Ala Met His Asp Thr	Ala Lys Trp Asp	Phe Val Gln Ile Gln Leu
225	230	235
Asn Tyr Val Asp Trp Arg	His Ala Thr Gly	Asn Asn Val Asn Ala Glu
245	250	255
Tyr Leu Tyr Gly Glu Leu	Ala Lys Arg Asn Ile	Ala Ala Val Ile Met
260	265	270
Glu Pro Leu Leu Gly Gly	Arg Leu Ser Asn Val	Pro Glu His Ile Val
275	280	285
Gly Arg Leu Lys Gln Arg	Arg Pro Glu Asp Ser	Val Ala Ser Trp Ala
290	295	300
Phe Arg Phe Ala Gly Ser	Pro Glu Leu Val	Leu Thr Val Leu Ser Gly
305	310	315
Met Thr Tyr Met Glu His	Leu Gln Asp Asn Ile	Arg Thr Tyr Ser Pro
325	330	335
Leu Val Pro Leu Thr Asp	Asp Asp Lys Glu	Tyr Leu Glu Glu Thr Ala
340	345	350
Gln Leu Met Met Gln Tyr	Pro Thr Ile Pro	Cys Asn Asp Cys Lys Tyr
355	360	365
Cys Met Pro Cys Pro Tyr	Gly Ile Asp Ile	Pro Ala Ile Leu Val His
370	375	380
Tyr Asn Lys Cys Val Asn	Glu Gly Asn Ile	Pro Gln Ser Gln Ser Ser
385	390	395
Glu Asn Tyr Lys Glu Ala	Arg Arg Ala	Phe Leu Val Gly Tyr Asp Arg
405	410	415
Ser Val Pro Lys Leu Arg	Gln Ala Ser His	Cys Ile Gly Cys Asn Gln
420	425	430
Cys Thr Pro His Cys Pro	Gln Ser Ile His	Ile Pro Glu Glu Leu His
435	440	445
Arg Ile Asp Arg Phe Val	Glu Gln Leu Lys	Gln Gly Thr Leu
450	455	460

&lt;210&gt; 6462

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6462

Lys	Ala	Met	Glu	Gln	Gly	Val	Trp	Gln	Glu	Ile	Glu	Gln	Leu	Tyr	Gln
1															15
			5						10						
Lys	Phe	Gln	Lys	Leu	Gly	Ile	Asn	Glu	Ala	Val	Asp	Tyr	Asp	Ser	Thr
															30
20									25						
Thr	Cys	Ile	Leu	Leu	Leu	Pro	Ile	Pro	Gln	Pro	Leu	Lys	Ala	Gln	Arg
															45
35									40						
Leu	Arg	Asn	Leu	Ile	Arg	Ser	Phe	Phe	Ser	Thr	Arg	Glu			
															60
			50						55						

&lt;210&gt; 6463

<211> 66  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6463

Leu	Val	Ile	Cys	Ala	Gln	Glu	Pro	Asp	Asn	Leu	Gln	lys	Thr	Leu	Thr
1															15
										10					
Met	Leu	Ile	Glu	Glu	Arg	Tyr	Lys	Asp	Glu	Asp	Thr	Gly	Ser	Gly	Gly
															30
20									25						
Val	Asn	Ser	Leu	Pro	Lys	Leu	Glu	Leu	Ser	Tyr	Ser	Ala	Gly	Val	Cys
															45
35									40						
Phe	Phe	Leu	Leu	Lys	Gln	Ala	Lys	Arg	Thr	Ile	Ile	Asn	Leu	Lys	Ile
															60
50							55								
Lys	Lys														
	65														

&lt;210&gt; 6464

<211> 385  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6464

Lys	Asp	Ser	Arg	Phe	Ile	Phe	Gly	Tyr	Pro	Leu	Arg	Trp	Leu	Arg	Val
1															15
										10					
Arg	Gly	Gly	Lys	Lys	Ala	Val	Asn	Gln	Ala	Leu	Pro	Val	Ile	Asp	Met
															30
20									25						
Asn	Glu	Asp	Tyr	Pro	Glu	Lys	Glu	Ile	Val	Leu	Gln	Asp	Ile	Ala	Asp
															45
35									40						
Ile	Ser	Tyr	Ile	Pro	Leu	Glu	Thr	Asn	Asp	Glu	Phe	Leu	Phe	Asp	Gly
															60
50									55						
Ser	Val	Glu	Val	Val	Thr	Asp	Gln	Tyr	Val	Ile	Thr	Lys	Gly	His	Arg
															80
65									70		75				
Gly	Asn	Asp	Val	Cys	Phe	Phe	Ser	Arg	Gln	Gly	Lys	Ala	Leu	Asn	Arg
															95
85									90						
Ile	His	Arg	Val	Gly	Asn	Gly	Pro	Gly	Glu	Tyr	Lys	Asp	Ile	Gly	Ser
															110
100									105						
Met	Asp	Val	Asn	Pro	Ala	Asn	Gly	Glu	Leu	Tyr	Leu	Lys	Glu	Met	Asn
															125
115									120						
Arg	Gln	Gln	Ile	His	Val	Tyr	Ser	Leu	Asp	Gly	Lys	Phe	Lys	His	Ser
															140
130									135						
Phe	Thr	Phe	Pro	Glu	Gly	Lys	Arg	Met	Ser	Arg	Met	Cys	Leu	Phe	Ser
															160
145									150		155				
Pro	Asp	Tyr	Leu	Ile	Ala	Glu	Gln	Glu	Ser	Lys	Val	Pro	Asp	Asp	Gln
															175
165									170						
Asp	Ala	Asn	Phe	Tyr	Pro	Tyr	Leu	Leu	Val	Ser	Thr	Arg	Asp	Gly	His
															190
180									185						
Leu	Asp	Ser	Leu	Asp	Tyr	Val	Gln	Lys	Arg	Asn	Ile	Leu	Val	Lys	Leu
															205
195									200						

Ile Val Asn Ala Glu Asn His Ser Tyr Ala Tyr Leu Leu Glu Pro Ser  
 210 215 220  
 Leu Ile Arg Asn Gly Ser Arg Phe Tyr Ile Gly Asn Pro Asp Ser Asp  
 225 230 235 240  
 Thr Leu Phe Ala Met Asn Pro Asp Arg Thr Leu Glu Pro Leu Leu Val  
 245 250 255  
 Arg Thr Pro Ser His Ser Glu Glu Gly Asn Lys Tyr Gly Leu Phe Leu  
 260 265 270  
 Arg Gly Ala Ala Gly Ala Tyr Phe Phe Leu Thr Lys Gln Pro Met Glu  
 275 280 285  
 Val Pro Met Asn Ser Ile Glu Ser Leu Asp Leu Lys Ser Glu Glu Trp  
 290 295 300  
 Leu Tyr Asp Cys Arg Thr Gln Glu Val Cys Arg Tyr Leu Leu Lys Asn  
 305 310 315 320  
 Lys Asp Asp Ala Ser Lys Arg Val Asp Gly Ile Met Phe Phe Cys Tyr  
 325 330 335  
 Pro Glu Asp Cys Gly Leu Ala Val Leu Lys Ser Glu Asp Leu Met Asp  
 340 345 350  
 Ala Tyr Glu Ala Gly Gln Leu Ser Gly Glu Leu Lys Glu Ile Ala Ala  
 355 360 365  
 Gly Leu Lys Ala Asp Asp Asn Pro Val Leu Met Leu Ile His Phe Lys  
 370 375 380

Lys  
 385

<210> 6465

<211> 77

<212> PRT

<213> B.fragilis

<400> 6465

Ile Arg Lys Leu Met Tyr Trp Thr Leu Glu Leu Ala Ser Lys Leu Glu  
 1 5 10 15  
 Asp Ala Pro Trp Pro Ala Thr Lys Asp Glu Leu Ile Asp Tyr Ala Met  
 20 25 30  
 Arg Ser Gly Ala Pro Leu Glu Val Ile Glu Asn Leu Gln Glu Met Glu  
 35 40 45  
 Asp Glu Gly Glu Ile Tyr Glu Ser Ile Glu Asp Ile Trp Pro Asp Tyr  
 50 55 60  
 Pro Ser Lys Glu Asp Phe Phe Asn Glu Glu Glu Tyr  
 65 70 75

<210> 6466

<211> 261

<212> PRT

<213> B.fragilis

<400> 6466

Ser Lys Ile Ser Phe Phe Thr Ser Arg Met Asp Ser Ser Gly Glu Ser  
 1 5 10 15  
 Arg Asp Thr Cys Phe Phe Val Asn Tyr Lys Arg Gly Leu Thr Leu Pro  
 20 25 30  
 Lys Thr Glu Leu Asp Ser Met Ser Lys Arg Lys Leu Thr Thr Lys Phe  
 35 40 45  
 Glu Glu Glu Pro Leu Asn Phe Gly Thr Gly Met Trp Asn Val Gly Leu  
 50 55 60  
 Thr Pro Asn Val Cys Arg Cys Thr Leu Leu Leu Pro Thr Ser Cys Met  
 65 70 75 80  
 Thr Cys Leu Val Gly Thr Gly Arg Thr Thr Ser Gly Arg Trp Pro Ala

85	90	95
Thr Tyr Val Pro Phe Asp Glu Ser Ala Ile Ser Glu Leu Lys Arg Tyr		
100	105	110
Ala Ser Phe Ile Ala Thr Ser Asn His Ser Asp Leu Leu Ser Asp Pro		
115	120	125
Ser Gly Ser Arg Arg Phe Ile Cys Ile Asn Ile Thr Gly Arg Ile Arg		
130	135	140
Asn Gly Ala Ala Ile Asn Tyr Leu Gln Pro Tyr Ala Gln Ala Val Gln		
145	150	155
Glu Leu Arg Glu Gly Glu Cys Phe Tyr Phe Ser Pro Glu Glu Ala		
165	170	175
Val Leu Met Glu Asn Asn Gln Glu Phe Glu Leu Gln Thr Pro Val Gly		
180	185	190
His Leu Phe Gln Gln Tyr Phe Arg Ser Ala Asp Glu Gly Glu Lys Cys		
195	200	205
Glu Thr Leu Leu Ala Val Asp Ile Leu Gly Arg Ile Gln Lys Lys Asn		
210	215	220
Gly Phe Lys Leu Ser Ala Thr Lys Ile Val His Leu Gly Arg Ile Leu		
225	230	235
Arg Lys Leu Gly Val Pro Cys Lys Lys Met Lys Asn Gly Asn Phe Tyr		
245	250	255
Cys Val Val Glu Leu		
260		

&lt;210&gt; 6467

&lt;211&gt; 284

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6467

Leu Leu Pro Ser Leu His Arg Gln Leu Tyr Lys Glu Arg Leu Arg Met		
1	5	10
Val Gln Ile Ala Leu Ser Arg Phe Lys Asp Phe Leu Lys Glu Gln Tyr		
20	25	30
Pro Leu Tyr Glu Cys Asn Ile Lys Pro Lys Phe Ile Thr Lys Asp Met		
35	40	45
Ile Val Gln Phe Val Asp Tyr Leu Gln Ser Arg Ser Val Gly Glu Gly		
50	55	60
Ala Lys Ser Ile Tyr Gln Arg Phe Lys Lys Val Ile Arg Tyr Ala Ile		
65	70	75
Glu His Asp Val Ile Leu Lys Asp Pro Cys Lys Glu Val Ile Cys Lys		
85	90	95
Val Asp Asp Pro Met Leu Arg Lys Asp Val Leu Ser Leu Glu Glu Ile		
100	105	110
Gln Ser Leu Ile Asn Cys His Tyr Glu Asn Glu Asn Pro Met Val Arg		
115	120	125
Arg Ala Phe Ile Phe Cys Leu Tyr Phe Gly Leu Arg Phe Cys Asp Val		
130	135	140
Lys Asp Leu Thr Tyr Lys Asn Val Asp Tyr Ser Asn Lys Leu Leu Lys		
145	150	155
Phe Glu Gln Asn Lys Thr Lys Gly His Ser Ser Ala Ser Gly Val Val		
165	170	175
Ile Pro Leu Asn Asp Gly Leu Leu Ser Ile Ile Gly Glu Ala Pro Ala		
180	185	190
Asn Gly Asn Lys Asp Val Leu Ile Phe Asp Leu Pro Thr Tyr Glu Ser		
195	200	205
Cys Ser Lys Ser Leu Arg Arg Trp Val Lys Arg Ala Gly Ile Asp Lys		
210	215	220
His Ile Ser Trp His Cys Ala Arg His Ser Phe Ala Val Asn Ile Leu		

225	230	235	240
Asn Asn Gly Ala Asn Ile Lys Thr Ile Ala Gly Leu Leu Gly His Ser			
245	250	255	
Gly Leu Lys His Thr Lys Lys Tyr Thr Arg Ala Val Asp Lys Leu Lys			
260	265	270	
Glu Glu Ala Ile Asn Ser Leu Pro Glu Leu Lys Leu			
275	280		

&lt;210&gt; 6468

&lt;211&gt; 808

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6468

Ile Ala Thr Ser Gln Ser Leu His Arg Met Gln Pro Met Tyr Pro Ala			
1	5	10	15
Leu Ser Ala Ile His Pro His Thr Gly Arg Thr Ala Ser His Arg Ser			
20	25	30	
Phe Cys Arg Thr Ala Gln Ala Gly Asp Thr Met Met Glu Lys Ile Ile			
35	40	45	
Asp Leu Leu His Ser Gly Gly Tyr Ser Cys Val Ile Gly Asn Gly Thr			
50	55	60	
Glu Ile Arg Thr Phe Thr Gln Arg Gly Val Ala Asp Leu Tyr Asp Leu			
65	70	75	80
Phe Arg Gln Asp Pro Ser Phe Met Lys Gly Ala Gly Ile Ala Asp Lys			
85	90	95	
Val Ile Gly Lys Ala Ala Ala Ser Leu Met Val Leu Gly Gly Ile Arg			
100	105	110	
Gln Val Tyr Ala Asp Val Ile Ser Gln Pro Ala Leu Ala Leu Leu Cys			
115	120	125	
Asn Ala Asn Ile Glu Val Ser Tyr Val Arg Leu Val Pro Phe Ile Glu			
130	135	140	
Asn Arg Asp Lys Ser Gly Trp Cys Pro Leu Glu Thr Ala Cys Tyr Gly			
145	150	155	160
Ile Glu Ser Ile Gln Glu Ile Phe Arg Ile Ile Glu Asn Phe Leu Ser			
165	170	175	
Lys Ile Arg Ile Lys Lys Asn Leu Leu Gly Ile Leu Leu Val Cys Ala			
180	185	190	
Phe Leu Ser Ser Ser Leu Gln Ala Gln Val Arg Lys Asp Thr Thr Gln			
195	200	205	
Ala Gly His Asn Tyr Glu Ile Asp Gly Val Val Val Thr Gly Thr Arg			
210	215	220	
Asn Glu Thr Asp Ile Arg His Leu Pro Met Thr Ile Ser Val Val Asn			
225	230	235	240
Arg Glu Thr Ile Gly Gln Arg Ser Glu Pro Ser Leu Leu Pro Thr Leu			
245	250	255	
Thr Glu Gln Val Pro Gly Leu Phe Thr Thr Ser Arg Gly Val Met Gly			
260	265	270	
Tyr Gly Val Ser Asn Gly Ala Ala Gly Gly Ile Ser Leu Arg Gly Ile			
275	280	285	
Gly Gly Ser Pro Thr Thr Gly Leu Leu Val Leu Ile Asp Gly His Pro			
290	295	300	
Gln Tyr Met Gly Leu Met Gly His Pro Ile Ala Asp Ala Tyr Gln Ser			
305	310	315	320
Met Leu Ala Glu Lys Val Glu Val Val Arg Gly Pro Ala Ser Val Leu			
325	330	335	
Tyr Gly Ser Asn Ala Met Gly Gly Val Ile Asn Ile Val Thr Arg Arg			
340	345	350	
Gln Arg Glu Asp Gly Val Arg Thr Gly Val Arg Leu Gly Tyr Gly Ser			

355	360	365
Tyr Asp Thr Trp Met Thr Glu Ala Thr Asn Gln Val		Lys Lys Gly Arg
370	375	380
Phe Asn Ser Ile Ile Thr Gly Ser Tyr Asn Arg Thr Asn Gly His Arg		
385	390	395
400		400
Pro Asp Met Glu Phe Glu Gln Tyr Gly Tyr Thr Arg Leu Gly Tyr		
405	410	415
Glu Leu Asp His Ser Trp Asn Val Ser Ala Asp Leu Asn Leu Thr His		
420	425	430
Phe Asn Ala Ser Asn Pro Gly Thr Val Ser Thr Pro Val Phe Asp Asn		
435	440	445
Asp Ser Arg Ile Thr Arg Gly Met Thr Ser Phe Ala Leu Glu Asn Arg		
450	455	460
Tyr Glu Arg Thr Ser Gly Ala Leu Lys Phe Phe Tyr Asn Trp Gly Lys		
465	470	475
480		
His His Ile Asn Asp Gly Tyr Gly Thr Gly Glu Glu Pro Leu Asp Tyr		
485	490	495
Arg Phe Asn Ser Lys Asp Arg Met Met Gly Ile Ser Trp Tyr Gln Ser		
500	505	510
Ala Ser Leu Phe Ser Gly Asn Arg Leu Thr Ala Gly Ile Asp Tyr Met		
515	520	525
Gln Phe Gly Gly Glu Ala Trp Asn Arg Phe Ile Ala Asp Lys His Lys		
530	535	540
Glu Gly Ile Ser Asp Lys Ser Glu Asn Glu Ile Ala Gly Tyr Leu Asp		
545	550	555
560		
Phe Arg Gln Ala Ile Gly Ser Tyr Leu Thr Met Asp Ala Gly Leu Arg		
565	570	575
Ile Asp His His Thr Val Thr Gly Thr Glu Trp Ile Pro Gln Val Gly		
580	585	590
Leu Ser Val Gln Leu Pro Gln Asp Ala Ser Leu Lys Ala Met Ala Ser		
595	600	605
Lys Gly Phe Arg Asn Pro Thr Ile Arg Glu Leu Tyr Met Phe Arg Pro		
610	615	620
Ala Asn Pro Asp Leu Leu Pro Glu Arg Leu Trp Asn Tyr Glu Leu Ser		
625	630	635
640		
Tyr Ser Gln Arg Leu Leu Lys Gly Thr Phe Tyr Tyr Gly Val Asn Leu		
645	650	655
Phe Tyr Ile Asn Gly Asp Asn Met Ile Gln Thr Ile Arg Thr Asp Gly		
660	665	670
Arg Pro Leu Asn Val Asn Thr Gly Lys Val Glu Asn Trp Gly Ala Glu		
675	680	685
Ala Asp Ile Ala Tyr His Ile His Pro Met Trp Arg Leu Thr Ala Asn		
690	695	700
Tyr Ser Trp Leu His Met Glu His Pro Leu Ile Ala Ala Pro Glu His		
705	710	715
720		
Lys Leu Tyr Thr Gly Ile Asp Phe Thr Gln Lys Lys Trp Ser Phe Ser		
725	730	735
Thr Gly Ile Gln Tyr Val Thr Gly Leu Tyr Thr Ala Val Asp Pro Gln		
740	745	750
Glu Lys Lys Glu Asn Phe Leu Leu Trp Asn Leu Arg Gly Ser Tyr Arg		
755	760	765
Ile Cys Ser Ile Ala Asp Leu Phe Val Lys Gly Glu Asn Leu Leu Ala		
770	775	780
Gln Arg Tyr Glu Ile Asn Ala Gly Tyr Pro Met Pro Lys Ala Thr Cys		
785	790	795
Met Gly Gly Ile Asn Ile Asn Phe		
805		800

<211> 166  
<212> PRT  
<213> B.fragilis

<400> 6469

His	Lys	Arg	Ser	Ile	Ile	Tyr	Thr	Leu	Asn	Leu	Asn	Asn	Lys	Lys	Met
1				5				10					15		
Asn	Lys	Val	Ile	Val	Thr	Phe	Leu	Leu	Ile	Gly	Ile	Val	Ala	Ser	
				20				25					30		
Ser	Cys	Thr	Thr	Ser	Lys	Ser	Val	Ile	Ser	Gln	Lys	Ala	Asp	Leu	Ser
				35				40				45			
Arg	Tyr	Glu	Tyr	Ala	Ser	Ile	Ile	Asn	Asn	Asp	Thr	Tyr	His	Ile	Pro
				50				55			60				
Ala	Gln	Leu	Met	Glu	Tyr	Glu	Ile	Gln	Leu	Phe	Asp	Ala	Ile	Glu	Ser
				65				70			75		80		
Ser	Arg	Leu	Lys	Leu	Val	Asn	Asp	Ile	Arg	Ile	Asp	Glu	Leu	Ser	Pro
				85				90			95				
Asn	Gln	Gln	Ser	Lys	Leu	Leu	Met	Val	Lys	Tyr	Gly	Val	Asp	Ile	Leu
				100				105			110				
Glu	Glu	Glu	Ser	Val	Val	Thr	Val	Asn	Phe	Ile	Asp	Tyr	Leu	Thr	Gly
				115				120			125				
Arg	Pro	Ile	Ala	Ser	Cys	Arg	Gly	Ala	Tyr	Thr	Thr	Leu	Gly	Phe	Ser
				130				135			140				
Val	Ser	Ala	Asp	Ile	Arg	Gly	Ala	Ile	Lys	Arg	Val	Ala	Lys	Gln	Ile
				145				150			155		160		
Ala	Glu	Thr	Phe	Pro	Lys										
				165											

<210> 6470  
<211> 716  
<212> PRT  
<213> B.fragilis

<400> 6470

Ser	Asn	Tyr	Gly	Met	Asn	Thr	Lys	Ser	Lys	His	Pro	Leu	Leu	Ser	Phe
1				5				10					15		
Pro	Lys	Pro	Gln	Phe	Thr	Thr	Gly	Met	Ile	Arg	Leu	Ser	Ile	Thr	Leu
				20				25				30			
Leu	Phe	Ser	Thr	Leu	Cys	Ile	Gly	Ser	Phe	Gly	Gln	Lys	Lys	Ser	Pro
				35				40			45				
Ile	Thr	Val	Glu	Thr	Leu	Leu	Glu	Glu	Met	Thr	Ser	Tyr	Asp	Glu	Met
				50				55			60				
Thr	Arg	Tyr	Pro	Thr	Leu	Pro	Tyr	Arg	Ser	Met	Gln	Gln	Ser	Ser	Tyr
				65				70			75		80		
Asp	Arg	Arg	Ser	Val	Ser	Pro	Asp	Arg	Pro	Gly	Trp	Phe	Ala	Asn	Asp
				85				90			95				
Asp	Gly	Glu	Gly	Phe	Ile	Arg	Leu	Glu	Glu	His	Asn	Gly	Arg	Lys	Glu
				100				105			110				
Lys	Val	Leu	Phe	Glu	Asp	Glu	Gly	Pro	Gly	Ala	Ile	Thr	Arg	Ile	Trp
				115				120			125				
Leu	Thr	Thr	Phe	Gly	Ser	Ile	His	Thr	Ile	Leu	Arg	Phe	Tyr	Phe	Asp
				130				135			140				
Gly	Lys	Asp	Glu	Pro	Gly	Trp	Val	Val	Pro	Ser	Tyr	Asp	Leu	Gln	Lys
				145				150			155		160		
Phe	Gly	Val	Arg	Gly	Leu	Lys	Lys	Gly	Leu	Ile	Glu	Pro	Asp	Asp	Lys
				165				170			175				
Trp	Ile	Arg	Gly	Ser	Leu	Ile	Tyr	Leu	Pro	Val	Thr	Tyr	Ala	Asp	Gly
				180				185			190				
Cys	Lys	Val	Thr	Met	Glu	Glu	Leu	Thr	Pro	Glu	Arg	Thr	Asn	Arg	His

195	200	205
Phe Leu Phe Asn Tyr Arg Lys Tyr Pro Thr Gly Thr Pro Val Glu Thr		
210	215	220
Phe Ser Arg Lys Val Ala Glu Arg Ile Pro Gln Ser Val Glu Lys Thr		
225	230	235
Ser Ala Thr Leu Tyr Arg Asn Ile Asp Lys Gly Val Asp Pro Gln Ala		
245	250	255
Arg Tyr Gly Lys Gly Ala Leu Ile His Arg Gln Asn Leu Ser Leu Asn		
260	265	270
Lys Gly Glu Lys Gln Gln Leu Asn Leu His Lys Gly Lys Arg Ala Ile		
275	280	285
Ser Leu Leu Gln Phe Asn Val Lys Thr Asp Pro Asp Leu Lys Pro Gly		
290	295	300
Thr Asp Asp Phe Ala Arg Leu Met Arg Ser Leu Ile Ile Ser Ile Ser		
305	310	315
Phe Asp Gly Gln Gln Thr Val Trp Ala Pro Leu Ser Asp Phe Ala Gly		
325	330	335
Ser Gly Met Gly Ala Phe Ala Ser Arg Ser Phe Phe Tyr Ser Asp		
340	345	350
Gly Lys Gly Ile Val Cys Ser Lys Trp Leu Met Pro Tyr Arg Gln Asn		
355	360	365
Cys Glu Ile Ser Val Leu Asn Leu Ser Pro Tyr Lys Thr Asp Val His		
370	375	380
Ile Asp Ile Val Ser Gln Pro Tyr Lys Trp Asp Asn Arg Ser Leu Tyr		
385	390	395
Phe His Thr Ala Trp Lys Gln Glu Arg Arg Leu Pro Val Val Thr Trp		
405	410	415
Met Glu His Glu Lys Cys Met Asp Trp Asn Phe Thr Thr Ile Ser Gly		
420	425	430
Arg Gly Val Tyr Arg Gly Asp Leu Leu Ser Leu Phe Asn His Thr Thr		
435	440	445
Glu Trp Tyr Gly Glu Gly Asp Glu Lys Ile Thr Val Asp His Glu Ala		
450	455	460
Phe Pro Ser His Phe Gly Thr Gly Thr Glu Asp Tyr Tyr Ser Phe Asp		
465	470	475
Gly Tyr Phe Lys Ser Gln Thr Pro Phe Ala Gly Gln Pro Arg Gln Asp		
485	490	495
Met Lys Asp Phe Tyr Gly Tyr Asn Ser Phe Phe Arg Val Arg Cys Leu		
500	505	510
Asp Gly Ile Pro Phe Asn Gln Gln Leu Lys Phe Asp Phe Glu Leu Leu		
515	520	525
Gly Trp Glu Asn Gly Thr Val Asp Tyr Ser Ser Thr Val Phe Trp Tyr		
530	535	540
Gly Asp Leu Asn Ser Gln Ala Ala Gly Phe Ser Gly Ile Glu Glu Ile		
545	550	555
Glu Ala Gly Leu Leu Pro Thr Pro Thr Gln Ser Pro Val Cys Ser Ile		
565	570	575
Ala Asn Ala Ile Asp Phe Cys Gln Ile Gln Pro Thr Ser Lys Ser Glu		
580	585	590
Arg Leu Arg Tyr Asp Arg Gln Arg Leu Ser Gly His Pro Gly Lys Trp		
595	600	605
Asn Leu Lys Asp His Leu Val Cys His Gly Gly Lys Lys Gly Asp Tyr		
610	615	620
Ile Glu Phe Glu Phe Ser Gly Phe Glu Asp Arg Glu Tyr Ser Leu Asn		
625	630	635
Leu Phe Cys Thr Lys Ala Ala Asp Tyr Gly Asn Ile Lys Phe Tyr Val		
645	650	655
Asn Arg Gln Glu Asn Gly Lys Gln Leu Asp Cys Tyr Ser Gln Glu Val		
660	665	670

Glu Ala Thr Gly Ala Ile Asn Leu Gly Met His Lys Pro Ile Asp Gly  
     675                       680                       685  
 Lys Phe Ile Leu Arg Ile Glu Leu Thr Gly Gln Asn Ala Leu Ser Thr  
     690                       695                       700  
 Gly Thr Leu Phe Gly Leu Asp Cys Ile Arg Ile Glu  
     705                       710                       715

<210> 6471

<211> 92

<212> PRT

<213> B.fragilis

<400> 6471

His Asp Tyr Gly Phe Cys Lys Ile Ser Gly Arg Ser Leu Asn Asn Arg  
     1                       5                       10                       15  
 Pro Phe Asp Lys Phe Pro Ile Glu Glu Cys Thr Tyr Gly Thr Pro His  
     20                       25                       30  
 Tyr Ile Thr Leu Glu Glu Lys Asp Lys Ile Phe Asn Ala Asp Leu Ser  
     35                       40                       45  
 Ala Thr Pro Gln Leu Ala Ile Gln Arg Asp Ile Phe Ile Phe Gln Thr  
     50                       55                       60  
 Leu Ile Gly Cys Arg Val Ser Asp Leu Tyr Arg Met Thr Gln Ser Arg  
     65                       70                       75                       80  
 Pro Thr His Ala Thr Arg Thr Ser Asp Arg Lys Ala  
     85                       90

<210> 6472

<211> 480

<212> PRT

<213> B.fragilis

<400> 6472

Arg Tyr Ile Met Lys Glu Glu Leu Ser Lys Ala Thr Arg Thr Glu Ser  
     1                       5                       10                       15  
 Asp Leu Ile Gly Glu Arg Glu Val Pro Glu Thr Ala Leu Tyr Gly Val  
     20                       25                       30  
 Gln Thr Leu Arg Gly Ile Glu Asn Phe Arg Ile Ser Lys Tyr His Leu  
     35                       40                       45  
 Cys Glu Tyr Pro Leu Phe Ile Asn Ala Leu Ala Ile Thr Lys Met Gly  
     50                       55                       60  
 Ala Ala Met Ala Asn Phe Glu Leu Gly Leu Leu Thr Glu Glu Gln Ala  
     65                       70                       75                       80  
 Asn Ala Ile Leu Arg Ala Cys Lys Glu Ile Leu Glu Gly Lys His His  
     85                       90                       95  
 Asp Gln Phe Pro Val Asp Met Ile Gln Gly Gly Ala Gly Thr Thr Thr  
     100                       105                       110  
 Asn Met Asn Ala Asn Glu Val Ile Ala Asn Arg Ala Leu Glu Leu Met  
     115                       120                       125  
 Gly His Lys Arg Gly Glu Tyr Gln Tyr Cys Ser Pro Asn Asp His Val  
     130                       135                       140  
 Asn Arg Ser Gln Ser Thr Asn Asp Ala Tyr Pro Thr Ala Ile His Ile  
     145                       150                       155                       160  
 Gly Met Tyr Tyr Thr His Leu Lys Leu Val Lys His Phe Lys Glu Val  
     165                       170                       175  
 Ile Asp Ala Phe Arg Arg Lys Gly Glu Glu Phe Ala His Val Ile Lys  
     180                       185                       190  
 Met Gly Arg Thr Gln Leu Glu Asp Ala Val Pro Met Thr Leu Gly Gln  
     195                       200                       205  
 Thr Phe Asn Gly Phe Ala Ser Ile Leu Gln Asp Glu Val Lys Asn Leu

210	215	220
Asp Phe Ala Ala Gln Asp Phe Leu Thr Val Asn Met Gly Ala Thr Ala		
225	230	235
Ile Gly Thr Gly Ile Thr Ala Glu Pro Glu Tyr Ala Ser Lys Cys Ile		240
245	250	255
Ala Ala Leu Arg Lys Ile Thr Gly Leu Asp Ile Arg Leu Ala Asp Asp		
260	265	270
Leu Ile Gly Ala Thr Ser Asp Thr Ser Cys Leu Val Gly Tyr Ser Ser		
275	280	285
Ala Met Arg Arg Ile Ala Val Lys Met Asn Lys Ile Cys Asn Asp Leu		
290	295	300
Arg Leu Leu Ala Ser Gly Pro Arg Cys Gly Leu Gly Glu Ile Asn Leu		
305	310	315
Pro Ala Met Gln Pro Gly Ser Ser Ile Met Pro Gly Lys Val Asn Pro		320
325	330	335
Val Ile Pro Glu Val Met Asn Gln Ile Asp Tyr Lys Val Ile Gly Asn		
340	345	350
Asp Leu Cys Val Ala Met Ser Gly Glu Ala Ala Gln Met Glu Leu Asn		
355	360	365
Ala Met Glu Pro Val Met Ala Gln Cys Cys Phe Glu Ser Ala Asp Leu		
370	375	380
Leu Met Asn Gly Phe Asp Thr Leu Arg Thr Leu Cys Ile Asp Gly Ile		
385	390	395
Thr Ala Asn Glu Glu Lys Cys Arg Lys Asp Val His Asn Ser Ile Gly		400
405	410	415
Val Val Thr Ala Leu Asn Pro Val Ile Gly Tyr Lys Asn Ser Thr Lys		
420	425	430
Ile Ala Lys Glu Ala Gln Glu Thr Gly Lys Gly Val Tyr Glu Leu Val		
435	440	445
Leu Glu His Asp Ile Leu Ser Lys Glu Asp Leu Asp Thr Ile Leu Lys		
450	455	460
Pro Glu Asn Met Ile His Pro Val Lys Leu Asp Ile Lys Pro Asn His		
465	470	475
		480

&lt;210&gt; 6473

&lt;211&gt; 355

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6473

Gly Ile Ile Ile Leu Leu Phe Phe Ala Val Arg Lys Lys Ser Ile Met		
1	5	10
Asp Ser Phe Asp Lys Tyr Ile Ser Arg Asn Leu Pro Leu Val Ser Leu		15
20	25	30
Ile Ser Ala Val Phe Ile Ile Tyr Pro Asn Ile Ala Cys Thr Pro Trp		
35	40	45
Glu Leu Asn Ser Leu Glu Pro Ser Glu Tyr Leu Gly Phe Phe Ser Tyr		
50	55	60
Phe Ile Tyr Arg Phe Leu Phe Phe Trp Gly Met Ile Gly Phe Leu Ile		
65	70	75
Asn Tyr Asn Leu Arg Gln Ile Pro Thr Ala Leu Phe Arg Lys Arg Leu		80
85	90	95
Thr His Asn Phe Leu Phe Ala Leu Thr Gly Tyr Leu Phe Phe Ala Ser		
100	105	110
Val Ser Tyr Thr Ile Ser Ser His Gly Phe His Thr Asp Phe Leu Gly		
115	120	125
Ser Thr Leu Ile Ser Gln Phe Phe Thr Leu Cys Phe Leu Cys Thr Leu		
130	135	140
Val Gly Tyr Ile Ser Met Leu Tyr Thr Arg Gln Arg Glu Lys Glu Gln		

145	150	155	160
Glu Ile Glu Arg Leu Arg Phe Glu Asn Leu Gln Ser Arg Cys Asp Ala			
165	170	175	
Leu Ala Asn Gln Val Asn Pro His Phe Phe Asn Ser Leu Asn Gly			
180	185	190	
Ile Ser Ser Leu Ile Arg Lys Lys Asn Asp Glu Asn Thr Leu Thr Tyr			
195	200	205	
Val Asn Gln Leu Ser Asp Ile Phe Arg Tyr Ile Leu Gln Ser Asp Arg			
210	215	220	
Lys Gly Val Val Thr Leu Arg Glu Glu Leu Glu Phe Ile Gln Ser Phe			
225	230	235	240
Arg Tyr Val Met Glu Val Arg Phe Ala Asn Lys Leu Ser Phe Thr Ile			
245	250	255	
Asp Val Asp Glu Ala Gln Lys Asp Val Leu Thr Leu Pro Val Leu Ser			
260	265	270	
Leu Leu Pro Leu Val Asp Asn Val Thr Val His Asn Arg Ile Asp Ser			
275	280	285	
Glu His Lys Met Asp Ile Ser Ile Arg Leu Asn Glu Gln Tyr Glu Leu			
290	295	300	
Val Val Ser Asn Pro Ile Tyr Pro Lys Leu Ser Pro Pro Asp Thr Asn			
305	310	315	320
Gly Thr Gly Leu Ser Asn Leu Glu Asn Arg Phe Asn Leu Leu Met Asn			
325	330	335	
Lys Gln Ile Arg Ile Glu Thr Asp Glu Lys Val Phe Arg Val Tyr Leu			
340	345	350	
Pro Leu Ile			
355			

&lt;210&gt; 6474

&lt;211&gt; 301

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6474

Val Thr Pro Met Lys Glu Arg Ile Leu Asn Ile Glu Thr Val His Gln			
1	5	10	15
Cys Asn Cys Cys Leu Gly Cys Lys Thr Leu His Pro Leu Val Ser Val			
20	25	30	
Ile Asp Leu Ser Lys Ser Asp Leu Glu Gln Gln Ile Ile Lys Phe Asp			
35	40	45	
Phe Tyr Thr Ile Leu Met Met Glu Gly Glu Ile Asp Asp Ile Leu Tyr			
50	55	60	
Gly Arg Lys Tyr Tyr Asp Tyr Ser Asn Ala Ser Leu Val Phe Leu Thr			
65	70	75	80
Pro Gly Glu Ser Ile Lys Ile Asn Lys Ser Lys Ala Leu Pro Ser Lys			
85	90	95	
Gly Trp Leu Leu Ala Phe His Pro Asp Leu Ile Ser Gln Thr Ser Leu			
100	105	110	
Gly Glu His Ile Lys Asp Tyr Ser Phe Phe Phe Tyr Asn Pro Glu Glu			
115	120	125	
Ala Leu His Leu Ser Gln Arg Glu Lys Ala Lys Ala Val Glu Cys Ile			
130	135	140	
Cys Asn Ile Glu Glu Glu Leu Arg His Ala Ile Asp Cys His Ser Gln			
145	150	155	160
Ile Leu Ile Ser Arg Tyr Ile Glu Leu Leu Asp His Cys Asn Arg			
165	170	175	
Phe Tyr Glu Arg Gln Phe Ile Thr Arg Cys Glu Ala Asn Lys Lys Ile			
180	185	190	
Met Lys Lys Thr Asp Val Leu Leu Lys Asp Tyr Ile Leu Ser Gly Lys			

195	200	205
Leu Lys Tyr Asn Thr Ser Pro Ser	Leu Gly Tyr Cys Ala Lys Ile Leu	
210	215	220
Gln Leu Ser Ser His Tyr Phe Asn Asp	Leu Leu Lys Phe Glu Ser Gly	
225	230	235
Lys Asn Ile Asp Glu Tyr Phe Glu Ser	Lys Arg Leu Glu Met Ala Lys	240
245	250	255
Ser Met Leu Leu Asp Ser Asn Asn	Thr Val Ser Val Val Thr Glu Lys	
260	265	270
Leu Gly Tyr Pro Asn Ile Arg Tyr Phe Ser Arg	Leu Phe Lys Arg Ile	
275	280	285
Thr Gly Val Ala Pro Asn Asn Tyr Arg	Leu Ser Gln Asn	
290	295	300

&lt;210&gt; 6475

&lt;211&gt; 587

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6475

Lys Met Tyr Ile Glu Lys Ile Asn Ser Pro Lys Asp Ile Lys Glu Leu		
1	5	10
Ser Val Glu Gln Leu Ser Val Leu Ala Glu Glu Val Arg Thr Ala Leu		15
20	25	30
Ile Arg Lys Leu Ser Glu His Gly Gly His Ile Gly Pro Asn Leu Gly		
35	40	45
Met Val Glu Thr Thr Ile Ala Leu His Tyr Val Phe Asn Ser Pro Ile		
50	55	60
Asp Lys Ile Val Phe Asp Val Ser His Gln Ser Tyr Val His Lys Met		
65	70	75
Leu Thr Gly Arg Met Ala Ala Phe Leu Asp Pro Ala Lys Tyr Asp Asp		80
85	90	95
Val Thr Gly Tyr Thr Asn Pro Asp Glu Ser Glu His Asp Phe Phe Thr		
100	105	110
Ile Gly His Thr Ser Thr Ser Val Ser Leu Ala Met Gly Leu Ala Lys		
115	120	125
Gly Arg Asp Leu Thr Gly Gly Lys Glu Asn Ile Ile Ala Val Ile Gly		
130	135	140
Asp Gly Ser Leu Ser Gly Gly Glu Ala Leu Glu Gly Leu Asn Asn Ala		
145	150	155
Ala Met Leu Gly Ser Asn Met Ile Ile Ile Val Asn Asp Asn Asp Gln		160
165	170	175
Ser Ile Ala Glu Asn His Gly Gly Leu Tyr Lys Gly Leu Lys Glu Leu		
180	185	190
Arg Asp Thr Asn Gly Glu Ser Pro Asp Asn Ile Phe Lys Ala Met Gly		
195	200	205
Leu Glu Tyr Tyr Leu Gly Asp Gly His Asp Val Ser Ala Leu Ile		
210	215	220
Lys Leu Phe Thr Pro Val Lys Asp Ile Asp Arg Ala Val Val Leu His		
225	230	235
Ile His Thr Ile Lys Gly Lys Gly Leu Lys Tyr Ala Glu Glu Asn Lys		240
245	250	255
Glu Tyr Trp His Ala Gly Gly Pro Phe His Ile Glu Asp Gly Ser Pro		
260	265	270
Lys Gly Pro Gly Trp Pro Val Asn Glu Thr Val Arg Glu Ser Val Leu		
275	280	285
Asp Leu Ile Glu Lys Arg Ser Asp Val Val Ala Ile Thr Ala Gly Thr		
290	295	300
Pro Ser Val Ile Gly Phe Thr Glu Asp Tyr Arg Lys Arg Ala Gly Lys		

305	310	315	320
Gln Phe Val Asp Val	Gly Ile Ala Glu Glu His Ala Val Ala Met Ala		
325	330	335	
Ser Gly Ile Ala Arg Asn Gly Gly Thr Pro Ile Phe Gly Val Phe Ser			
340	345	350	
Pro Phe Leu Gln Arg Thr Tyr Asp Gln Leu Ser Ser Asp Leu Cys Leu			
355	360	365	
Asn Asn Asn Pro Ala Val Ile Met Val Phe Met Ala Ser Val Tyr Gly			
370	375	380	
Met Asn Ser Asn Thr His Leu Gly Ile Tyr Asp Ile Pro Met Ile Ser			
385	390	395	400
His Ile Pro Asn Leu Val Tyr Leu Ala Pro Thr Ser Lys Glu Glu Tyr			
405	410	415	
Leu Ala Met Phe Lys Tyr Ala Thr Thr Gln Lys Ala His Pro Ile Ala			
420	425	430	
Ile Arg Ile Pro Met Met Met Pro Glu Thr Gly Ile Glu Asp Thr Thr			
435	440	445	
Asp Tyr Ser Leu Leu Asn Lys Tyr Gln Val Val Arg Lys Gly Ser Gly			
450	455	460	
Val Ala Ile Ile Ala Leu Gly Asp Phe Phe Glu Leu Gly Val Gln Ile			
465	470	475	480
Ala Asp Lys Tyr Lys Ile Leu Thr Gly Asn Asp Val Thr Leu Ile Asn			
485	490	495	
Pro Lys Phe Ile Thr Gly Ile Asp Glu Glu Leu Leu Glu Cys Leu Lys			
500	505	510	
Thr Asp His Glu Leu Val Leu Thr Leu Glu Asp Gly Ile Val Glu Gly			
515	520	525	
Gly Phe Gly Gln Thr Ile Ala Ser Phe Tyr Gly Leu Ser Asp Met Lys			
530	535	540	
Val Lys Asn Tyr Gly Ile Lys Lys Ser Phe Pro Thr Asp Phe Arg Pro			
545	550	555	560
Glu Glu Leu Met Arg Glu Asn Gly Leu Ser Val Glu Gln Ile Val Glu			
565	570	575	
Asp Ile Lys Ser Val Cys Arg Glu His Val Met			
580	585		

&lt;210&gt; 6476

&lt;211&gt; 221

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6476

Asn Tyr Ile Phe Val Pro Asn Phe Lys His Asn Leu Val Met Lys Lys			
1	5	10	15
Ile Ile Ser Ala Leu Met Met Ala Val Cys Ile Gly Met Ala Met Pro			
20	25	30	
Ala Gln Ala Gln Leu Ile Lys Phe Gly Val Lys Gly Gly Val Asn Leu			
35	40	45	
Ala Lys Ala Asp Leu Asn Thr Ser Asp Phe Lys Thr Asp Asn Phe Thr			
50	55	60	
Gly Phe Phe Ile Gly Pro Met Ala Glu Val Thr Ile Pro Leu Ile Gly			
65	70	75	80
Leu Gly Val Asp Ala Ser Leu Leu Phe Ser Gln Arg Gly Val Lys Val			
85	90	95	
Ser Ser Arg Asp Phe Ile Asp Pro Leu Ala Asp Ser Asp Pro Ile Ile			
100	105	110	
Gly Asn Arg Thr Ile Arg Gln Asn Gly Leu Asp Ile Pro Ile Asn Leu			
115	120	125	
Lys Tyr Thr Ile Gly Leu Gly Ser Ser Leu Gly Ile Tyr Val Ala Ala			

130	135	140
Gly Pro Asp Phe Tyr Phe Asn Phe Ser Gly Asp Lys Val Tyr Glu Asn		
145	150	155
Tyr Gly Arg Leu Asn Lys Lys Asn Ala Gln Ile Gly Ile Asn Val Gly		160
165	170	175
Ala Gly Val Lys Leu Leu Arg His Leu Gln Val Gly Ala Asn Tyr Asn		
180	185	190
Ile Pro Leu Asn Lys Thr Ala Glu Trp Lys Glu Ala Asp Phe Ser Tyr		
195	200	205
Lys Thr Lys Met Trp Gln Ile Ser Ala Ala Tyr Ile Phe		
210	215	220

&lt;210&gt; 6477

&lt;211&gt; 401

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6477

1	5	10	15
Leu Cys Phe Phe Gly Asn Leu Gly Arg Val Phe Ile Ser Asp Asn Arg			
20	25	30	
Ile Gln Cys Ser His His Thr Asp Thr Val Val Asn Ile Phe Pro Ala			
35	40	45	
Phe Phe Leu Ile Gly Arg Asp Ala Val Tyr Thr Gln Gly Thr Gln Arg			
50	55	60	
Ile Glu Thr Ile His Gln Gln Ile Gly Arg Phe Glu Thr Ala Leu Gly			
65	70	75	80
His Asp Arg Phe His Arg Ile Gln Phe His Leu Gly Arg Phe Thr Thr			
85	90	95	
His Ser Tyr Thr Lys Val Val Thr Tyr Phe Ile Val Asn Leu Ile			
100	105	110	
His His Phe Gly Asn Asn Arg Ile Asp Leu Thr Arg His Asn Gly Arg			
115	120	125	
Thr Gly Leu His Gly Arg Gln Ile Asp Phe Ala Gln Pro Ala Thr Arg			
130	135	140	
Ala Gly Cys Gln Lys Ala Gln Val Ile Thr Tyr Leu Ile His Phe Tyr			
145	150	155	160
Ser Tyr Thr Ala His Ser Arg Arg Val Thr Tyr Gln Thr Arg Ser Val			
165	170	175	
Gly Ser Ser Ser Tyr Gln Ile Ile Gly Gln Thr Asp Ile Gln Ser Gly			
180	185	190	
Asn Leu Pro Glu Ser Arg Tyr Ala Phe Ala Cys Ile Phe Arg Leu Gly			
195	200	205	
Gly Asp Ser Gly Ser Asp Gly Ser Ser Ser His Ile Asp Gly Gln Glu			
210	215	220	
Val Leu Ser Ser Lys Val Gln Val Leu Asp Phe Ile Leu Lys Asp Thr			
225	230	235	240
Gly Lys Thr Ile Glu Arg Leu Ser Glu Arg His Arg His Arg Ile Phe			
245	250	255	
Gln Leu Gly Ala Pro His Leu Asp His Val Cys Lys Phe Phe Ala Leu			
260	265	270	
Ser Ser Glu Ser Ile Asp His Leu Leu Lys Met Phe His Gln Phe Glu			
275	280	285	
Val Arg Ile Ile His Thr Asp Met Asp Ser Gly Arg Ile Ser Val Ile			
290	295	300	
Gly Arg Leu Arg Thr Val Asn Met Ile Ile Gly Arg Thr Ile Leu Ile			
305	310	315	320
Phe Pro Thr Phe Met Ser His Gln Leu Glu Cys Ala Val Gly Tyr His			

325	330	335
Leu Val Gly Ile His Val Gly Gly Ser Ser Gly Ser Thr Leu Asp His		
340	345	350
Val Tyr Arg Glu Leu Val Met Met Phe Pro Phe Gln Asn Phe Phe Thr		
355	360	365
Cys Thr Lys Asn Gly Ile Cys Leu Leu Phe Gly Gln Gln Ser Lys Phe		
370	375	380
Lys Val Ser His Ser Gly Ser His Leu Gly Asn Gly Gln Cys Ile Asp		
385	390	395
Lys		400

&lt;210&gt; 6478

&lt;211&gt; 806

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6478

Phe Thr Tyr Ile Thr Phe Phe Leu Leu Thr Leu Lys Asn Arg Gly Met		
1	5	10
Arg Lys Trp Thr Tyr Leu Val Ala Ala Leu Leu Val Gly Gly Ala Thr		
20	25	30
Thr Thr Phe Thr Gly Cys Ile Asp Asn Asp Glu Pro Ala Gly Ile Glu		
35	40	45
Gln Leu Arg Gly Ala Lys Ala Glu Phe Ile Lys Ala Lys Ala Ala Tyr		
50	55	60
Glu Asp Ala Leu Thr Gln Ile Gln Leu Val Lys Val Glu Arg Glu Lys		
65	70	75
Val Lys Leu Glu Lys Asp Gln Val Asn Leu Glu Leu Lys Lys Cys Ser		
85	90	95
Leu Glu Val Glu Gln Ala Lys Thr Ala Glu Gln Lys Ala Phe Trp Glu		
100	105	110
Ala Glu Ala Gln Lys Arg Thr Glu Glu Phe Lys Ala Lys Ile Leu Asp		
115	120	125
Leu Gln Thr Leu Thr Ala Gln Ala Glu Tyr Asn Asn Lys Lys Ala Leu		
130	135	140
Met Asp Ile Glu Val Ala Leu Leu Thr Met Lys Asp Asp Ala Tyr Thr		
145	150	155
Ala Glu Ile Asn Lys Tyr Arg Ala Ala Leu Val Gly Tyr Thr Phe Lys		
165	170	175
Ser Glu Ser Thr Thr Asn Gly Glu Thr Thr Ile Thr Thr Asn Ser Ser		
180	185	190
Tyr Gly Ala Leu Ala Asp Leu Ala Glu Ala Lys Ser Ser Leu Met Lys		
195	200	205
Ala Glu Val Ala Arg Ile Asn Phe Leu Ser Lys Asn Lys Tyr Tyr Pro		
210	215	220
Glu Glu Leu Gln Leu Glu Arg Thr His Ala Ala Lys Thr Leu Glu Ile		
225	230	235
Gln Met Ala Leu Met Glu Glu Tyr Lys Ala Leu Asp Ala Thr Gly Thr		
245	250	255
Asp Ser Lys Ala Leu Ala Asp Lys Leu Lys Gly Tyr Lys Thr Asp Leu		
260	265	270
Gln Ala Leu Asp Ala Lys Glu Asp Glu Ala Tyr Thr Lys Ile Glu Glu		
275	280	285
Met Arg Lys Pro Ile Phe Pro Ile Asn Gln Gln Ile Ile Glu Glu Lys		
290	295	300
Ile Lys Leu Asp Ala Thr Ser Ser Ala Tyr Thr Leu Ala Lys Ala Asp		
305	310	315
Val Asp Pro Ala Leu Val Asn Gly Leu Tyr Ser Ala Leu Ser Thr Gly		320

325	330	335
Glu Asp Glu Glu Lys Leu Val Glu Asp	Leu Asp Lys Ile Phe Val Gln	
340	345	350
Asp Ser Trp Asn Ala Glu Leu Leu Asn Tyr Gln Tyr Thr Met Lys Lys		
355	360	365
Asp Val Val Ile Asn Asp Leu Ser Leu Asn Asn Lys Ala Thr Lys Ile		
370	375	380
Gly Ala Ile Ala Asp Ala Ile Lys Ala Tyr Tyr Gln Gly Glu Asn Ser		
385	390	395
Glu Ala Phe Asp Ala Ser Gly Lys Leu Leu Asp Ala Tyr Lys Thr Lys		
405	410	415
Phe Glu Asn Glu Leu Lys Arg Leu Glu Ile Asp Lys Lys Pro Ala Tyr		
420	425	430
Asp Gln Phe Lys Ser Asp Ser Thr Ala Trp Ile Asn Ala Tyr Val Ala		
435	440	445
Tyr Val Ala Ala Leu Lys Ala Tyr Asn Asn Tyr Lys Gly Thr Asn Thr		
450	455	460
Tyr Gln Ala Ile Thr Lys Glu Val Thr Thr Tyr Asn Ser Leu Lys Ala		
465	470	475
Glu Asp Lys Lys Leu Glu Thr Ala Asn Ala Leu Arg Thr Ser Ile Leu		
485	490	495
Gly Tyr Leu Gly Lys Arg Lys Ala Val Asp Gly Phe Asn Ala Glu Phe		
500	505	510
Ala Thr Thr Tyr Lys Asp Ala Leu Thr Asp Ala Asn Leu Ala Thr Phe		
515	520	525
Asn Glu Ala Ile Ala Thr Ala Val Ser Asp Gly Ile Ser Ser Leu Ile		
530	535	540
Gly Asn Glu Thr Leu Ala Thr Ser Phe Asn Asp Lys Val Glu Gly Ser		
545	550	555
Thr Leu Phe Ala Phe Leu Glu Ala Asn Gln Ala Leu Phe Gly Gly Ser		
565	570	575
Glu Leu Asn Leu Glu Lys Ser Ile Glu Pro Lys Glu Ile Ser Ala Asn		
580	585	590
Lys Tyr Asp Met Pro Lys Asn Val Ser Gln Leu Ile Asp Asn Pro Glu		
595	600	605
Asn Asn Ser Gly Ser Phe Val Lys Tyr Thr Tyr Leu Ala Gln Glu Ser		
610	615	620
Asn Tyr Leu Val Asn Leu Asp Lys Trp Gln Ala Leu Tyr Ala Lys Ile		
625	630	635
Lys Ala Glu Ala Asp Pro Val Leu Ala Glu Val Asp Ala Ile Asn Glu		
645	650	655
Lys Ile Ala Thr Leu Glu Ser Gln Ile Lys Asp Glu Asn Ala Ala Leu		
660	665	670
Trp Gln Ala Glu Leu Ala Cys Tyr Leu Ile Lys Gly Asp Lys Ser Lys		
675	680	685
Arg Gln Asn Glu Ile Phe Ser Glu Ser Asn Pro Tyr Lys Asn Tyr Tyr		
690	695	700
Thr Ser Asn Glu Gln Glu Pro Leu Leu Gly Asn Val Val Thr Glu Tyr		
705	710	715
Ser Lys Leu Glu Ala Glu Ile Ala Leu Val Gln Arg Ala Met Glu Asp		
725	730	735
Gly Tyr Phe Tyr Tyr Thr Tyr Asp Ala Asn Ser His Thr Tyr Lys		
740	745	750
Val Ser Glu Lys Ser Leu Asn Leu Thr Ser Leu Leu Glu Thr Gln Glu		
755	760	765
Glu Ala Ile Thr Asp Ala Lys Lys Thr Val Glu Asp Ile Asp Asn Lys		
770	775	780
Ile Ala Leu Phe Asp Lys Tyr Gly Tyr Thr Asn Ile Glu Gly Gln Glu		
785	790	795
		800

Glu Tyr Leu Asp Leu Ser  
805

<210> 6479

<211> 523

<212> PRT

<213> B.fragilis

<400> 6479

Lys	Thr	Arg	Ile	Met	Asn	Val	Ile	Ile	Tyr	Cys	Arg	Val	Ser	Ser	Asp
1				5				10					15		
Glu	Gln	Thr	Leu	Gly	Ala	Ser	Leu	Asp	Val	Gln	Glu	Glu	Arg	Leu	Arg
			20				25					30			
Lys	Tyr	Cys	Asn	Gln	Met	Gly	Tyr	Asn	Ile	Ile	Asn	Asn	Ile	Pro	Tyr
	35					40					45				
Arg	Glu	Asp	Glu	Ser	Ala	Lys	Thr	Phe	Glu	Lys	Arg	Pro	Val	Ile	Gln
	50					55				60					
Gly	Ile	Met	Ser	Tyr	Ile	Arg	Lys	Asn	Lys	Gly	Lys	Val	Asn	Lys	Leu
	65					70			75				80		
Leu	Phe	Leu	Arg	Trp	Asp	Arg	Tyr	Ser	Arg	Asp	Ile	Ile	Ser	Ala	Ser
					85				90				95		
Glu	Asn	Leu	Lys	Glu	Leu	Leu	Lys	Leu	Gly	Val	Glu	Pro	Asn	Ala	Ile
					100			105				110			
Glu	Ala	Pro	Leu	Asp	Phe	Asn	Ser	Asp	Thr	Trp	Pro	Leu	Leu	Leu	Gly
					115			120				125			
Val	His	Ile	Gly	Ser	Ala	Gln	Cys	Asp	Asn	Ile	Lys	Arg	Ser	Lys	Ala
					130			135			140				
Thr	Met	Asp	Gly	Ile	His	Gly	Thr	Leu	Ala	Lys	Gly	Lys	Cys	Ala	Asn
	145					150			155				160		
Lys	Ala	Pro	Arg	Gly	Tyr	Lys	Asn	Val	Arg	Ile	Ser	Lys	His	Glu	Thr
					165			170			175				
His	Val	Glu	Ile	Asp	Thr	Asn	Thr	Ala	Pro	Phe	Ile	Gln	Ala	Met	Phe
					180			185			190				
Lys	Glu	Val	Ala	Lys	Gly	Ile	Glu	Thr	Pro	Cys	Tyr	Ile	Arg	Arg	Lys
					195			200			205				
Phe	Ala	Arg	Lys	Gly	Tyr	Asn	Ile	Pro	Glu	Ser	Ser	Phe	Leu	Glu	Met
					210			215			220				
Leu	Arg	Asn	Lys	Phe	Tyr	Ile	Gly	Lys	Ile	Arg	Val	Pro	Ala	Tyr	Lys
	225					230			235			240			
Gly	Glu	Pro	Glu	Tyr	Tyr	Val	Asn	Gly	Glu	His	Glu	Ala	Ile	Ile	Asp
					245			250			255				
Glu	Glu	Thr	Phe	Tyr	Lys	Val	Gln	Glu	Ile	Leu	Asp	Gly	Lys	Arg	Lys
					260			265			270				
Lys	Thr	Pro	Lys	Leu	Ser	Lys	Ala	Ile	Asn	Pro	Asp	Leu	Tyr	Leu	Arg
					275			280			285				
Lys	Phe	Leu	Ile	Cys	Pro	Val	Cys	Gly	Cys	Ala	Leu	Thr	Gly	Ala	Thr
					290			295			300				
Ser	Ser	Gly	Asn	Gly	Gly	Lys	Tyr	Thr	Tyr	Tyr	Phe	Cys	Cys	Asn	Asn
	305					310			315			320			
Gln	Lys	His	Ile	Arg	Met	Arg	Ala	Glu	Asn	Val	Asn	Glu	Glu	Phe	Ala
					325			330			335				
Arg	Tyr	Thr	Ala	Gln	Leu	Lys	Pro	Asn	Lys	Thr	Val	Leu	Asn	Leu	Tyr
					340			345			350				
Asn	Glu	Ile	Leu	Lys	Asp	Leu	Gln	Asn	Glu	Arg	Lys	Gly	Glu	Ser	Lys
					355			360			365				
Lys	Glu	Val	Val	Ala	Leu	Gln	Asn	Glu	Leu	Ser	Thr	Val	Gln	Lys	Arg
					370			375			380				
Ile	Asn	Ser	Ile	Glu	Asp	Lys	Tyr	Leu	Asp	Gly	Asp	Leu	Thr	Lys	Glu
	385					390				395			400		

Glu Tyr Asn Arg Met Leu Glu Arg Tyr Thr Lys Glu Ala Ser Thr Ile  
           405                  410                  415  
 Gln Gln Gln Val Glu Met Arg Glu Asn Pro Asn Arg Ser Asn Ile Glu  
           420                  425                  430  
 Pro Lys Leu Asn Tyr Ser Ile Asn Leu Ile Asn Asn Ile Asp Ser Tyr  
           435                  440                  445  
 Ile Arg Asn Ala Ser Val Gly Val Lys Ile Lys Leu Ile Ser Ser Met  
           450                  455                  460  
 Phe Pro Glu Lys Ile Glu Phe Asp Gly Lys Thr Tyr Arg Thr Asn Ser  
           465                  470                  475                  480  
 Tyr Asn Lys Val Leu Asp Leu Ile Tyr Gln Gln Thr Asn Glu Leu Arg  
           485                  490                  495  
 Gly Val Glu Lys Lys Ser Gly Glu Ser Phe Ser Thr Phe Ser Ala Ser  
           500                  505                  510  
 Val Pro Arg Pro Gly Val Glu Pro Gly Trp Lys  
           515                  520

&lt;210&gt; 6480

&lt;211&gt; 339

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6480

Lys Asn Asn Phe Asn Phe Leu Met Lys Ser Gln Tyr Glu Lys Lys Arg  
   1              5                  10                  15  
 Leu Ile Thr Phe Asp Arg Ile Lys Ile Lys Ser Asn Tyr Lys Tyr Leu  
   20              25                  30  
 Leu Asn Thr Lys Val Lys Phe Asn Glu Met Phe His Ser Arg Ser Gly  
   35              40                  45  
 Glu Lys Ile Gly Ile Phe Tyr Ser Ser Lys Asp Asp Ile Asn Ile Pro  
   50              55                  60  
 Tyr Asn Leu Tyr Ile Ala Val Ser Tyr Ile Lys Gln Thr Leu Thr Leu  
   65              70                  75                  80  
 Glu Phe Ser Ser Lys Ile Leu Lys Glu Lys Tyr Pro Asp Leu Ile Ser  
   85              90                  95  
 Arg Asp Thr Ile Lys Glu Cys Leu Thr Asn Ile Asn Gln Leu His Ile  
   100            105                  110  
 Cys Asp Ile Asp Val Asp Ser Ile Leu Ser Asn Gly Ala Ile Thr Ser  
   115            120                  125  
 Val Asp Val Thr Tyr Asp Ala Asn Leu Ile Leu Ser Asp Asn Leu Leu  
   130            135                  140  
 Asn Ile Leu Asn Ser Gln Val Thr Asn Tyr Arg Arg Phe Lys Trp Ala  
   145            150                  155                  160  
 His Tyr Asp Lys Glu Gly Ile Thr Phe Thr Lys Asp Val Lys Ser Lys  
   165            170                  175  
 Asp Cys Thr Glu Thr Ile Thr Leu Tyr Asn Lys Glu Lys Glu Ile Cys  
   180            185                  190  
 Thr Ser His Asn Lys Asp Phe Leu Asn Ser Leu Ser Gln Pro Gln Ser  
   195            200                  205  
 Val Ile Asp Tyr Phe Lys Gly Lys Thr Arg Phe Glu Ile Thr Leu Asn  
   210            215                  220  
 Thr Val Lys Lys Ile Met Asn Tyr Leu Asn Leu Thr Asp Thr Lys Ile  
   225            230                  235                  240  
 Phe Ser Val Leu Asn Ser Asp Thr Asn Pro Ile Leu Thr Gln Phe Asp  
   245            250                  255  
 Lys Val Phe Gly Asn Ser Thr Ala Asn Met Pro Asn Thr Thr Phe Asp  
   260            265                  270  
 Asp Tyr Glu Asn Trp Ala Met Lys Ile Ile Leu Glu Arg Tyr Asn Gly  
   275            280                  285

Asp Leu Lys Leu Leu Glu Gln Asp Ile Arg Ser Lys Phe Asn Ser Arg  
   290               295               300  
 Ser Gly Ala Ser Lys Arg Met Lys Lys Phe Glu Thr Val Tyr His Ala  
   305               310               315               320  
 Met Thr Ser Ala Ser Thr Ser Glu Asn Pro Ile Glu Lys Ile Arg Asn  
   325               330               335  
 Leu Leu Leu

<210> 6481  
 <211> 87  
 <212> PRT  
 <213> B.fragilis

<400> 6481  
 Met Met Ser Val Leu Leu Pro Leu Arg Trp Arg Leu Leu Ser Ala  
   1               5               10               15  
 Lys Ser Met Pro Pro Thr Lys Phe Phe His Leu Tyr Ile Leu Leu Leu  
   20               25               30  
 Phe Arg Glu Gly Val Val Ala Leu Arg Phe Ala Thr Phe Ala Val Pro  
   35               40               45  
 Phe Ala Gly Gly Pro Asn Ala Gly Phe Leu His Tyr Pro Lys Ala Val  
   50               55               60  
 Gln Ser Gln Pro Ile Tyr Trp Pro Ile Ser Thr Val Tyr Arg Ile Ile  
   65               70               75               80  
 Tyr Leu Ser Cys Pro Val Lys  
   85

<210> 6482  
 <211> 206  
 <212> PRT  
 <213> B.fragilis

<400> 6482  
 Glu Arg Ser Leu Val Phe Ala Arg Ile Leu Ile Thr Phe Val Arg Asn  
   1               5               10               15  
 His Tyr Gln Leu Ser Asn Gly Lys Lys Asp Glu Val Trp Gln Val Val  
   20               25               30  
 Ser Ser Lys Tyr Leu Phe Arg Arg Pro Trp Leu Thr Val Arg Cys Asp  
   35               40               45  
 Asp Met Leu Leu Pro Asn Gly Asn His Ile Pro Glu Tyr Tyr Ile Leu  
   50               55               60  
 Glu Tyr Pro Asp Trp Val Asn Thr Ile Ala Ile Thr Lys Glu Gly Lys  
   65               70               75               80  
 Phe Val Phe Val Arg Gln Phe Arg Pro Gly Ile Gly Lys Gln Leu Tyr  
   85               90               95  
 Glu Leu Cys Ala Gly Val Cys Glu Lys Glu Asp Ala Ser Pro Leu Val  
   100              105              110  
 Ser Ala Gln Arg Glu Leu Leu Glu Glu Thr Gly Tyr Gly Lys Gly Asn  
   115              120              125  
 Trp Lys Glu Tyr Met Val Ile Ser Ala Asn Pro Ser Thr His Thr Asn  
   130              135              140  
 Leu Thr His Cys Phe Leu Ala Thr Asp Val Glu Gln Ile Asp Thr Gln  
   145              150              155              160  
 His Leu Glu Asp Thr Glu Ala Leu Thr Val His Leu Leu Ser Leu Glu  
   165              170              175  
 Glu Val Lys Glu Leu Leu Glu Asn Gly Gln Ile Met Gln Ser Leu His  
   180              185              190  
 Ala Ala Pro Leu Trp Lys Tyr Met Ala Glu His Lys Gln Ile

195

200

205

<210> 6483  
<211> 63  
<212> PRT  
<213> B.fragilis

<400> 6483  
Arg Val Ile Ser Ser Tyr Glu Val Ile Ser Ser Lys Arg Val Ser Thr  
1 5 10 15  
Val Ile Gly Asp Phe Phe Cys Pro Asn Glu Pro Met His Arg Val Glu  
20 25 30  
Lys Ser Lys Val Met Leu Asn Leu Ile Ile Pro Val Val Asn Trp Gly  
35 40 45  
Phe Gly Asn Asp Ser Lys Gly Cys Phe Asp Phe Val Phe Met Pro  
50 55 60

<210> 6484  
<211> 197  
<212> PRT  
<213> B.fragilis

<400> 6484  
Ile Met Glu Leu Gln Val Ile Gln Asn Lys Ile Tyr Glu Val Arg Gly  
1 5 10 15  
Gln Lys Val Met Leu Asp Phe Asp Leu Ala Glu Leu Tyr Gly Ser Glu  
20 25 30  
Thr Lys Arg Leu Lys Glu Ala Val Arg Arg Asn Leu Lys Arg Phe Pro  
35 40 45  
Ser Asp Phe Met Phe Glu Leu Thr Lys Glu Glu Phe Glu Ser Leu Arg  
50 55 60  
Ser Gln Ile Ala Ser Ser Asn Lys Arg Gly Thr Arg Tyr Met Pro  
65 70 75 80  
Phe Ala Phe Thr Glu Gln Gly Val Ala Met Leu Ser Ser Val Leu Asn  
85 90 95  
Ser Glu Ser Ala Ile Glu Ile Asn Ile Ser Ile Met Arg Ala Phe Val  
100 105 110  
Thr Val Arg Gln Tyr Leu Ser Ser Leu Asn Ser Thr Thr Lys Glu Ile  
115 120 125  
Glu Glu Leu Lys Gln Arg Met Lys Met Leu Glu Glu Gly Asn Glu Asp  
130 135 140  
Ile Ile Ala Ala Val Asn Asp Leu Ser Glu Asp Thr Arg Lys Glu Leu  
145 150 155 160  
Asp Asp Ile Tyr Leu Ala Leu Ser Gln Leu Ala Glu Lys Gln Lys His  
165 170 175  
Val Asn Lys Gln Thr Glu Arg Arg Pro Ile Gly Phe Ala His Tyr Lys  
180 185 190  
Glu Asn Asn Lys Lys  
195

<210> 6485  
<211> 812  
<212> PRT  
<213> B.fragilis

<400> 6485  
Leu Ser Pro Ser Pro Asn Lys Glu Thr Pro Thr Met Lys Glu Asp Leu  
1 5 10 15  
Tyr Asp Asp Leu Tyr Glu Glu Lys Glu Lys Ile Asp Phe His Ala

20	25	30
Leu Leu Phe Arg Tyr Val Ile Arg Trp Pro Trp Phe Val Ala Ser Val		
35	40	45
Ile Ile Cys Leu Ala Gly Ala Trp Leu His Leu Arg Gln Thr Thr Pro		
50	55	60
Val Tyr Asn Ile Ser Ala Ser Val Ile Ile Lys Asp Asp Lys Lys Gly		
65	70	75
Gly Asn Ser Gly Gly Asn Leu Ala Ala Leu Glu Gly Leu Gly Leu Val		
85	90	95
Asn Ser Val Ser Asn Ile Asp Asn Glu Ile Glu Ile Leu Arg Ser Lys		
100	105	110
Thr Leu Val Lys His Val Val Ser Glu Leu Asn Leu Tyr Thr Thr Tyr		
115	120	125
Ser Val Lys Gly Ser Phe Asn Glu Val Glu Leu Tyr Lys Ser Ser Pro		
130	135	140
Val Leu Val Gly Leu Thr Pro Gln Glu Ala Asp Arg Leu Pro Gly Pro		
145	150	155
Ala Val Phe Glu Leu Thr Leu Ser Pro Gly Asn Arg Leu Asp Val Lys		
165	170	175
Ala Thr Val Gly Glu Thr Ser Tyr Asn Lys Lys Phe Ser Lys Leu Pro		
180	185	190
Gly Leu Leu Val Thr Pro Ala Gly Thr Phe Thr Phe Thr Leu Ala Gly		
195	200	205
Asp Ser Ala Gly Val Ser Glu Pro Gln Thr Leu Thr Ala Val Val Ser		
210	215	220
Asn Pro Met Gln Thr Ala Lys Arg Tyr Ala Ala Ala Leu Ser Val Glu		
225	230	235
Pro Thr Ser Lys Thr Thr Ser Ile Val Ile Val Ser Leu Lys Asn Thr		
245	250	255
Asn Lys Arg Arg Gly Glu Asp Phe Ile Asn Arg Leu Ile Glu Val Tyr		
260	265	270
Asn Arg Asn Thr Asn Asn Asp Lys Asn Glu Val Ala Glu Lys Thr Glu		
275	280	285
Glu Phe Ile Ala Gly Arg Ile Arg Ile Ile Asn Asp Glu Leu Phe Ser		
290	295	300
Thr Glu Lys Glu Leu Glu Thr Phe Lys Arg Asp Ala Gly Leu Thr Asp		
305	310	315
Leu Ala Ser Asp Ala Gln Leu Ala Val Ser Glu Asn Ser Ala Tyr Glu		
325	330	335
Lys Gln Arg Val Glu Asn Gly Thr Gln Leu Asn Leu Val Arg Tyr Leu		
340	345	350
Ala Glu Tyr Ile Ser Ala Pro Asp Lys Ile Asn Ala Val Leu Pro Val		
355	360	365
Asn Val Gly Leu Thr Asp Gln Ser Leu Ser Ser Leu Ile Gly Gln Tyr		
370	375	380
Asn Glu Met Val Leu Gln Arg Asn Arg Leu Leu Arg Asn Ser Ser Glu		
385	390	395
Ser Asn Pro Val Ile Val Asn Leu Asp Ser Gly Ile Arg Ala Met Arg		
405	410	415
Glu Asn Ile Leu Thr Thr Ile His Ser Val Gln Lys Gly Leu Leu Ile		
420	425	430
Thr Lys Ala Asp Leu Asp Arg Gln Ala Asn Lys Phe Asn Arg Arg Ile		
435	440	445
Ser Asn Ala Pro Ala Gln Glu Arg Gln Phe Val Ser Ile Ser Arg Gln		
450	455	460
Gln Glu Ile Lys Ala Gly Leu Tyr Leu Met Leu Leu Gln Lys Arg Glu		
465	470	475
Glu Asn Ser Ile Ala Leu Ala Ala Thr Ala Asn Asn Ala Lys Ile Val		
485	490	495

COPPER SPRINGS UNIVERSITY LIBRARIES

Asp Glu Ala Met Ala Asp Asn Gly Pro Val Ser Pro Lys Thr Lys Thr  
       500                 505                 510  
 Ile Tyr Met Ile Ala Leu Val Met Gly Met Gly Ile Pro Val Ala Ile  
       515                 520                 525  
 Ile Tyr Val Met Gly Leu Leu Gln Phe Arg Ile Glu Gly Arg Ala Asp  
       530                 535                 540  
 Val Glu Lys Leu Thr Ser Ala Pro Ile Ile Gly Asp Ile Pro Leu Ala  
       545                 550                 555                 560  
 Glu Glu Gly Asn Gly Lys Ala Gly Gly Ile Ala Val Arg Glu Asn Glu  
       565                 570                 575  
 Asn Ser Leu Met Ala Glu Thr Phe Arg Gly Ile Arg Thr Asn Leu Gln  
       580                 585                 590  
 Phe Met Leu Gly Glu Glu Asn Lys Val Ile Leu Val Thr Ser Thr Ile  
       595                 600                 605  
 Ser Gly Glu Gly Lys Thr Phe Val Ala Thr Asn Leu Ala Ile Ser Leu  
       610                 615                 620  
 Ser Leu Leu Gly Lys Arg Val Val Ile Val Gly Leu Asp Ile Arg Lys  
       625                 630                 635                 640  
 Pro Gly Leu Asn Lys Val Phe Asn Leu Ser Gln Lys Glu Lys Gly Ile  
       645                 650                 655  
 Thr Gln Phe Leu Ala Gly Pro Gln Thr Thr Asp Leu Met Ser Met Val  
       660                 665                 670  
 Gln Pro Ser Gly Ile Ser Arg Thr Leu Ser Ile Leu Pro Gly Gly Thr  
       675                 680                 685  
 Val Pro Pro Asn Pro Thr Glu Leu Leu Ala Arg Gln Ala Leu Val Glu  
       690                 695                 700  
 Ala Ile Asp Ile Leu Lys Lys His Phe Asp Tyr Ile Val Leu Asp Thr  
       705                 710                 715                 720  
 Ala Pro Ile Gly Met Val Thr Asp Thr Gln Ile Ile Ala Arg Val Ala  
       725                 730                 735  
 Asp Leu Ser Val Tyr Val Cys Arg Ala Asp Tyr Thr His Lys Ala Asp  
       740                 745                 750  
 Tyr Thr Leu Leu Glu Asp Leu Arg Leu Gly Asn Lys Leu Pro Asn Leu  
       755                 760                 765  
 Cys Thr Val Ile Asn Gly Leu Asp Met Lys Lys Arg Lys Tyr Gly Tyr  
       770                 775                 780  
 Tyr Tyr Gly Tyr Gly Lys Tyr Gly Arg Tyr Tyr Gly Tyr Gly Lys Lys  
       785                 790                 795                 800  
 Tyr Gly Tyr Gly Tyr Gly Tyr Gly Gln Lys His Asn  
       805                 810

&lt;210&gt; 6486

&lt;211&gt; 101

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6486

Asp Tyr Val Ser Leu Cys Gly Glu Leu His Glu Glu Val His Thr Cys  
       1                 5                 10                 15  
 Tyr Asn Gly Gly Tyr Arg Arg Gln Leu Ala Gly Asp Arg Met Leu Ile  
       20                 25                 30  
 Pro Lys Ala Ser Leu Ser Ser Asp Arg Ser Leu Gln Pro Asp Phe Val  
       35                 40                 45  
 Lys Leu Asp Ser Leu Val Ile Ala His Gln Pro Arg Arg Gly Gly Ile  
       50                 55                 60  
 Arg Ser Arg Ala Leu Tyr Thr Pro Pro Val Lys Pro Trp Glu Pro Gly  
       65                 70                 75                 80  
 Val Pro Glu Val Arg Asn Arg Lys Asp Arg Pro Arg Val Lys Leu Val  
       85                 90                 95

Thr Gly Ala Lys Ser  
100

<210> 6487

<211> 588

<212> PRT

<213> B.fragilis

<400> 6487

Leu	Arg	Ala	Phe	Ile	Ile	Met	Thr	Asp	Met	Thr	Asp	Ile	Lys	Asn	Glu
1						5			10					15	
Glu	Ala	Gly	Glu	Lys	Lys	Ser	Leu	Asn	Phe	Ile	Glu	Gln	Ala	Val	Glu
						20			25				30		
Asn	Asp	Leu	Lys	Ala	Gly	Lys	Asn	Gly	Gly	Lys	Val	Gln	Thr	Arg	Phe
						35			40			45			
Pro	Pro	Glu	Pro	Asn	Gly	Tyr	Leu	His	Ile	Gly	His	Ala	Lys	Ala	Ile
						50			55			60			
Cys	Leu	Asp	Phe	Gly	Ile	Ala	Ala	Ala	His	Gly	Gly	Val	Cys	Asn	Leu
						65			70			75			80
Arg	Phe	Asp	Asp	Thr	Asn	Pro	Thr	Lys	Glu	Asp	Met	Glu	Tyr	Val	Glu
						85			90			95			
Ala	Ile	Gln	Glu	Asp	Ile	Arg	Trp	Leu	Gly	Phe	Gln	Trp	Gly	Asn	Val
						100			105			110			
Tyr	Tyr	Ala	Ser	Asp	Tyr	Phe	Gln	Gln	Leu	Trp	Asp	Phe	Ala	Val	Thr
						115			120			125			
Leu	Ile	Lys	Glu	Gly	Lys	Ala	Tyr	Val	Asp	Glu	Gln	Thr	Ser	Glu	Gln
						130			135			140			
Ile	Ala	Gln	Gln	Lys	Gly	Thr	Pro	Thr	Gln	Pro	Gly	Val	Glu	Ser	Pro
						145			150			155			160
Tyr	Arg	Asn	Arg	Pro	Ile	Glu	Glu	Ser	Leu	Ala	Leu	Phe	Glu	Lys	Met
						165			170			175			
Asn	Ser	Asp	Glu	Ala	Lys	Glu	Gly	Ser	Met	Val	Leu	Arg	Ala	Lys	Ile
						180			185			190			
Asp	Met	Ala	Ser	Pro	Asn	Met	His	Phe	Arg	Asp	Pro	Ile	Met	Tyr	Arg
						195			200			205			
Ile	Leu	His	Val	Ala	His	His	Arg	Thr	Gly	Thr	Gln	Trp	Lys	Ala	Tyr
						210			215			220			
Pro	Met	Tyr	Asp	Phe	Ala	His	Gly	Gln	Ser	Asp	Tyr	Phe	Glu	Gly	Val
						225			230			235			240
Thr	His	Ser	Leu	Cys	Thr	Leu	Glu	Phe	Val	Pro	His	Arg	Pro	Leu	Tyr
						245			250			255			
Asp	Leu	Phe	Ile	Asp	Trp	Leu	Lys	Glu	Gly	Lys	Asp	Leu	Asp	Asp	Asn
						260			265			270			
Arg	Pro	Arg	Gln	Thr	Glu	Phe	Asn	Lys	Leu	Asn	Leu	Asn	Tyr	Thr	Leu
						275			280			285			
Met	Ser	Lys	Arg	Asn	Leu	Leu	Ile	Leu	Val	Lys	Glu	Gly	Leu	Val	Asn
						290			295			300			
Asp	Trp	Asp	Asp	Pro	Arg	Met	Pro	Thr	Leu	Cys	Gly	Phe	Arg	Arg	Arg
						305			310			315			320
Gly	Tyr	Ser	Pro	Glu	Ser	Ile	Arg	Lys	Phe	Ile	Asp	Lys	Ile	Gly	Tyr
						325			330			335			
Thr	Thr	Tyr	Asp	Ala	Leu	Asn	Asp	Phe	Ala	Leu	Leu	Glu	Ser	Ala	Val
						340			345			350			
Arg	Glu	Asp	Leu	Asn	Ala	Arg	Ala	Thr	Arg	Val	Ser	Ala	Val	Leu	Asn
						355			360			365			
Pro	Val	Lys	Leu	Ile	Ile	Thr	Asn	Tyr	Pro	Glu	Gly	Gln	Val	Glu	Glu
						370			375			380			
Leu	Glu	Ala	Ile	Asn	Asn	Pro	Glu	Asp	Pro	Thr	Ala	Gly	Ser	His	Thr
						385			390			395			400

Bacteroides fragilis

Ile Glu Phe Ser Arg Glu Leu Trp Met Glu Arg Asp Asp Phe Met Glu  
           405                          410                          415  
 Asp Ala Pro Lys Lys Tyr Phe Arg Met Thr Pro Gly Gln Glu Val Arg  
           420                          425                          430  
 Leu Lys Asn Ala Tyr Ile Val Lys Cys Thr Gly Cys Lys Lys Asp Glu  
           435                          440                          445  
 Asn Gly Thr Val Thr Glu Val Tyr Cys Glu Tyr Asp Pro Asn Thr Arg  
           450                          455                          460  
 Ser Gly Met Pro Asp Ala Asn Arg Lys Val Lys Gly Thr Leu His Trp  
           465                          470                          475                          480  
 Leu Ser Cys Asn His Cys Leu Pro Ala Glu Val Arg Leu Tyr Asp Arg  
           485                          490                          495  
 Leu Trp Lys Val Glu Asn Pro Arg Asp Glu Met Ala Ala Ile Arg Glu  
           500                          505                          510  
 Ala Lys Gly Cys Asp Ala Leu Glu Ala Met Lys Glu Met Ile Asn Pro  
           515                          520                          525  
 Asp Ser Leu Thr Val Leu Pro His Cys Tyr Ile Glu Lys Tyr Val Ala  
           530                          535                          540  
 Asp Met Pro Ala Leu Ser Tyr Leu Gln Phe Gln Arg Ile Gly Tyr Phe  
           545                          550                          555                          560  
 Asn Ile Asp Lys Asp Ser Thr Pro Gly His Leu Val Phe Asn Arg Thr  
           565                          570                          575  
 Val Gly Leu Lys Asp Thr Trp Gly Lys Ile Asn Lys  
           580                          585

&lt;210&gt; 6488

&lt;211&gt; 224

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6488

Ala Leu Gln Leu Phe Asp Glu Lys Ala Ile Tyr Val Thr Asn Leu Met  
   1                        5                        10                        15  
 Phe Lys Lys Met Lys Lys Asp Phe Asn Leu Thr Lys Leu Phe Tyr Ser  
   20                        25                        30  
 Phe Ala Ile Ala Phe Ser Val Val Thr Leu Ser Ser Cys Asn Asn Asp  
   35                        40                        45  
 Asp Asn Ser Pro Leu Pro Pro Pro Ser Thr Asn Asp Val Ala Gly Thr  
   50                        55                        60  
 Tyr Asn Gly Lys Val Leu Ile Thr Gln Val Thr Pro Ala Thr Val Lys  
   65                        70                        75                        80  
 Glu Asn Ala Gly Glu Ala Pro Gln Gly Gln Asp Val Asn Ala Thr Val  
   85                        90                        95  
 Lys Asn Asp Thr Val Phe Phe Asp Lys Leu Pro Val Thr Glu Leu Ile  
   100                      105                        110  
 Thr Ser Ile Val Gly Asp Lys Asp Lys Ala Glu Ala Ile Val Lys Ala  
   115                      120                        125  
 Ile Gly Asp Val Lys Tyr Lys Val Gly Tyr Lys Pro Ala Leu Asn Thr  
   130                      135                        140  
 Glu Lys Asp Ser Ile Tyr Leu Ala Phe Asp Pro Lys Pro Leu Thr Leu  
   145                      150                        155                        160  
 Gln Leu Pro Ala Ala Val Glu Gly Gln Glu Gly Gln Thr Val Thr Val  
   165                      170                        175  
 Thr Ile Ser Ser Pro Asp Lys Gly Ser Phe Ala Tyr Lys Lys Asn Gln  
   180                      185                        190  
 Leu Lys Leu Lys Leu Ser Ala Asp Lys Val Glu Leu Ala Gly Val Ala  
   195                      200                        205  
 Val Pro Val Pro Gln Thr Leu Phe Asn Phe Asp Met Thr Lys Lys Lys  
   210                      215                        220

<210> 6489  
<211> 172  
<212> PRT  
<213> B.fragilis

<400> 6489  
Asn Leu Glu Leu Ser Ile Met Ala Thr Thr Asn Phe Lys Gly Gln Pro  
1               5               10               15  
Val Lys Leu Ile Gly Glu Phe Ile Gln Val Gly Lys Val Ala Pro Asp  
20               25               30  
Phe Glu Leu Val Lys Ser Asp Leu Ser Ser Phe Ala Leu Lys Asp Leu  
35               40               45  
Lys Gly Lys Asn Ile Val Leu Asn Ile Phe Pro Ser Leu Asp Thr Gly  
50               55               60  
Val Cys Ala Thr Ser Val Arg Lys Phe Asn Lys Met Ala Ala Gly Met  
65               70               75               80  
Lys Asp Thr Val Val Leu Ala Ile Ser Lys Asp Leu Pro Phe Ala Gln  
85               90               95  
Gly Arg Phe Cys Thr Thr Glu Gly Ile Glu Asn Val Ile Pro Leu Ser  
100              105              110  
Asp Phe Arg Phe Ser Asp Phe Asp Glu Ser Tyr Gly Val Arg Met Ala  
115              120              125  
Asp Gly Pro Leu Ala Gly Leu Leu Ala Arg Ala Val Val Val Ile Gly  
130              135              140  
Lys Asp Gly Lys Val Ala Tyr Thr Glu Leu Val Pro Glu Ile Thr Gln  
145              150              155              160  
Glu Pro Asp Tyr Glu Lys Ala Leu Ala Ala Val Lys  
165              170

<210> 6490  
<211> 379  
<212> PRT  
<213> B.fragilis

<400> 6490  
Met Ile Asn Thr Pro Arg Lys Asn Gly Tyr Ser Phe Lys Tyr Gly Thr  
1               5               10               15  
Leu Phe Tyr Val Pro Phe Phe Ser Cys His Leu Gly Ile Ser Glu Thr  
20              25              30  
Phe Ile Arg Leu Tyr Ile Tyr Ala Ile Asp Phe Leu Leu Ile Ser Ser  
35              40              45  
Ile Phe Ser Asn Leu Ser Leu Lys Ile Phe Phe Ile Ile Asn Arg Val  
50              55              60  
Leu Glu His Thr Lys Lys Asn Lys Lys Met Glu Ile Glu Lys Phe Ile  
65              70              75              80  
Lys Ser Leu Ala Arg Lys Ala Lys Leu Gly Gly Arg Tyr Ser Thr Ala  
85              90              95  
Asn Thr Tyr Leu Tyr Thr Leu His Ser Phe Gln Lys Phe Ala Gly Lys  
100             105             110  
Ala Ser Leu Thr Phe Glu Glu Ile Thr Pro Glu Ser Ile Lys Glu Tyr  
115             120             125  
Glu Gln Tyr Leu Ile Leu Asn Gly Lys Arg Tyr Asn Thr Ile Ser Leu  
130             135             140  
Tyr Met Arg Met Leu Arg Ser Ile Cys Asn Gln Ala Ser Glu Gln Asn  
145             150             155             160  
Ile Ala Ser Leu Asn Thr Arg Glu Leu Phe Glu Asn Val Phe Ile Gly  
165             170             175  
Asn Glu Pro Thr Ala Lys Arg Ala Ile Ser Pro Val Leu Ile Ser Arg

180	185	190
Leu Leu Glu Ala Asp Phe Ser	Lys Asn Ser Arg	Leu Asp Phe Ala Arg
195	200	205
Asp Leu Phe Leu Leu Ser Phe	Tyr Leu Arg Gly	Ile Pro Phe Val Asp
210	215	220
Leu Val His Leu Arg Lys Thr	Asp Val Gln Gly	Asn Met Leu Val Tyr
225	230	235
Phe Arg Gln Lys Thr Gly Gln	Gln Leu Thr Val Ile	Ile Glu Asn Cys
245	250	255
Ala Lys Val Ile Leu Arg Lys Tyr	Ala Ser Leu Cys	Lys Glu Ser Val
260	265	270
Tyr Leu Leu Pro Val Ile Ser	Ala Ala Gly Glu	Gly His Lys Gln
275	280	285
Tyr Arg Ser Ala Leu Arg Val	Tyr Asn Lys Arg	Leu Asn Gln Ile Ser
290	295	300
Gly Ile Leu Lys Leu Lys Thr	Pro Leu Thr Ser	Tyr Val Ala Arg His
305	310	315
Ser Trp Ala Thr Thr Ala Leu Gln Lys	Gly Val Pro Val	Ser Val Ile
325	330	335
Ser Ala Gly Met Gly His Ala Ser	Glu Lys Val Thr	Tyr Ile Tyr Leu
340	345	350
Ala Ser Phe Asp Asn Lys Thr	Leu Ser Asn Ala Asn	Lys Lys Val Ile
355	360	365
Ala Ala Val Arg Phe Lys Lys	Glu Glu Glu	
370	375	

&lt;210&gt; 6491

&lt;211&gt; 155

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6491

Lys Glu Ser Thr Ile Met Ser	Lys Glu Val Thr Tyr	Ser Val Val Ala
1	5	10
Arg Lys Asn Met Leu Lys Lys	Asp Asp Pro Ala Lys	Tyr Ala Gln
20	25	30
Ala Gln Ala Ser Gly Asp Val	Gly Leu Asp Glu	Ile Ser Thr Arg Val
35	40	45
Glu Lys Ala Cys Thr Val His	Ser Ala Asp Val	Val Ala Val Leu Lys
50	55	60
Ala Leu Glu Asp Glu Met Val	Asp Gly Leu Ser Arg	Gly Glu Ile Val
65	70	75
Arg Leu Gly Asn Ile Gly Thr	Phe Gln Val Gly	Leu Arg Ser Arg Gly
85	90	95
Ala Glu Lys Ala Glu Asp Phe	Lys Ala Ala Asn	Ile Ser Lys Ala Arg
100	105	110
Val Asn Phe Arg Pro Gly Pro	Val Leu Ala Asp	Ala Met Lys Thr Leu
115	120	125
Asn Phe Ser Lys Val Ser Thr	Arg Ala Ala Gln	Lys Gly Asp Gly Gly
130	135	140
Gly Asp Gly Asp Ile Val	Asp Asp Pro	Thr Ala
145	150	155

&lt;210&gt; 6492

&lt;211&gt; 104

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6492

Lys His Thr Ala Phe Arg Ile Phe Phe Arg Thr Phe Thr Val Cys Asn  
 1 5 10 15  
 Asn Gln Ile Ile Lys Ala Met Asn Gln Arg Lys Glu Glu Asp Thr Thr  
 20 25 30  
 Glu Ala Asp Phe Ile Ile Arg Ser Tyr Thr Lys Ala Glu Leu Ala Gln  
 35 40 45  
 Leu Tyr Cys Pro Gly Leu Asp Pro Val Leu Ala Leu Gln Lys Leu Tyr  
 50 55 60  
 Arg Trp Met Arg Lys Asn Thr Ala Leu Thr Gln Ala Leu Ser Glu Val  
 65 70 75 80  
 Asn Tyr Asn Lys Tyr Arg His Ser Phe Leu Lys Arg Glu Val Arg Leu  
 85 90 95  
 Ile Val Tyr Tyr Leu Gly Glu Pro  
 100

&lt;210&gt; 6493

&lt;211&gt; 212

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6493

Thr Ile Gly Ala Arg Thr Leu Phe Thr Met Asp Asn Asn Leu Lys Asn  
 1 5 10 15  
 Lys Ile Asp Met Lys Thr Leu Phe Asp Glu Met Glu His Ala Val Lys  
 20 25 30  
 Asn Trp Trp Leu Ser Leu Ile Leu Gly Ile Leu Tyr Ile Ile Val Ala  
 35 40 45  
 Leu Cys Leu Leu Phe Ala Pro Gly Ser Ser Tyr Ile Ala Leu Ser Val  
 50 55 60  
 Ile Phe Ser Ile Ser Met Leu Ile Ser Gly Ile Ile Glu Ile Ile Phe  
 65 70 75 80  
 Ser Ile Ser Asn Arg Arg Gly Ile Ser Ser Trp Gly Trp Tyr Leu Ala  
 85 90 95  
 Gly Gly Ile Ile Asp Leu Ile Leu Gly Ile Tyr Leu Val Ala Tyr Pro  
 100 105 110  
 Leu Leu Ser Met Glu Val Ile Pro Phe Ile Val Ala Phe Trp Met Met  
 115 120 125  
 Phe Arg Gly Phe Ser Ala Thr Gly Tyr Ser Met Asp Leu Lys Arg Tyr  
 130 135 140  
 Gly Thr Arg Glu Trp Gly Trp Tyr Met Gly Phe Gly Ile Leu Ala Ile  
 145 150 155 160  
 Ile Cys Ser Leu Ile Ile Leu Trp Gln Pro Ala Val Gly Ala Leu Tyr  
 165 170 175  
 Val Ile Tyr Met Leu Ala Phe Thr Phe Leu Ile Ile Gly Phe Phe Arg  
 180 185 190  
 Val Met Leu Ser Phe Glu Leu Lys Ser Leu His Lys Arg Ser Thr Val  
 195 200 205  
 Met Asn Gly Lys  
 210

&lt;210&gt; 6494

&lt;211&gt; 482

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6494

Leu Leu Ile Lys Leu Gly Arg Lys Asn Ser Pro Ser Glu Arg Glu Arg  
 1 5 10 15  
 Glu Leu Gln Asn Leu Ile Ala Gln Tyr Glu Ala Val Lys Ala Lys Asn

20	25	30
Glu Ser Leu Tyr Leu Asp Gly Asp Gln	Leu Ala Asp Ile Ala Asp Leu	
35	40	45
Tyr Ala Ser Glu Arg Lys Phe Lys Glu Ala Gln	Glu Val Ile Thr Tyr	
50	55	60
Gly Leu Gly Leu His Pro Gly His Thr Asp Leu Met	Val Glu Gln Ala	
65	70	75
80		
Tyr Leu Phe Leu Asp Leu Asn Gln Pro Gln	Lys Ala Lys Glu Val Ala	
85	90	95
Glu Leu Ile Thr Asp Thr Tyr Ser Ser Asn Val Lys	Leu Leu Ala	
100	105	110
Glu Leu Leu Asn Glu Gly Lys Leu Asp Ala Ala Asp	Gln Met Leu	
115	120	125
Asp Ser Ile Glu Glu Glu Lys Asn Asp Leu Gly Ile	Leu Val Asp	
130	135	140
Ile Val Tyr Leu Tyr Thr Asp Leu Gly Tyr Pro	Glu Lys Gly Val Gln	
145	150	155
160		
Trp Leu Lys Arg Gly Ala Glu Met Tyr Lys Asp Asp	Glu Asp Phe Leu	
165	170	175
Ala Ala Thr Ala Asp Cys Tyr Gly Ala Ala Gly Ala	Glu Tyr Ile Glu	
180	185	190
Gln Ala Ile Val Val Phe Asn Lys Leu Ile Asp Lys	Asn Pro Tyr Asn	
195	200	205
Pro Ala Tyr Trp Val Gly Leu Ala Lys Cys Gln	Phe Ala Thr Lys Asp	
210	215	220
Phe Asp Lys Ala Ile Glu Ser Cys Asp Phe Ala Ile	Ala Asp Glu	
225	230	235
240		
Glu Phe Gly Glu Ala His Ile Ile Lys Ala His Ser	Leu Phe His Leu	
245	250	255
Glu Asn Ile Glu Gly Ala Ile Val Glu Tyr Arg Lys	Ala Leu Lys Tyr	
260	265	270
Lys Thr Leu Ser Pro Glu Phe Thr Tyr Met Phe Ile	Gly Leu Ala Tyr	
275	280	285
Thr Gln Gln Glu Asn Trp Ala Glu Ala Asn Glu	Ser Tyr Ser Met Ala	
290	295	300
Leu Arg Ala Ile Glu Glu Asn Gly Asn Ser Ser	Pro Leu Leu Ser	
305	310	315
320		
Asp Ile Tyr Ser Asn Lys Ala Leu Cys Ala Ser Arg	Gln Gly Asp Ser	
325	330	335
Glu Glu Ala His Arg Leu Cys Arg Leu Ala Lys	Glu Leu Ala Pro Gln	
340	345	350
Asp Ala Glu Pro Tyr Leu Leu Glu Gly Arg Ile	Tyr Met Glu Glu Asp	
355	360	365
Asn Phe Asp Leu Ala Arg Ala Glu Trp Ala Leu	Ala Leu Arg Tyr Ala	
370	375	380
Pro Glu Ala Asp Thr Trp Met Glu Ile Gly Asn	Tyr Ser Leu Glu Phe	
385	390	395
400		
Arg Met Leu Glu Asn Ala Arg Phe Cys Phe Glu	Gln Val Leu Glu Glu	
405	410	415
Asp Pro Glu Tyr Pro Lys Ile Cys Glu Gln Leu	Ala Ala Val Cys Leu	
420	425	430
Val Leu Gln Asp His Glu Gly Phe Lys Lys Tyr	Asn Ala Met Ser Gly	
435	440	445
Asp Ser Ile Asn Leu Asp Ser Leu Arg Asp Thr	Ile Leu Glu Met Gly	
450	455	460
Val Asp Gly Glu Gln Met Leu Arg Glu Leu Asp	Asp Phe Leu Lys Asp	
465	470	475
Glu Lys		480

<210> 6495  
<211> 254  
<212> PRT  
<213> B.fragilis

<400> 6495

His	Arg	Cys	Lys	Leu	Lys	Met	Ser	Leu	Met	Lys	Arg	Ser	Pro	Thr	Gly
1				5				10							15
Lys	Ser	Trp	Gly	Val	Lys	Ile	Ser	Arg	Ser	Gly	Val	Phe	Arg	Leu	Glu
				20				25						30	
Asp	Ile	Thr	His	Tyr	Tyr	Ser	Glu	Glu	Glu	Leu	Gly	Glu	Ala	Tyr	Glu
				35				40				45			
Asn	Ala	Gly	Glu	Lys	Ile	Met	Glu	Leu	Ile	Gln	Lys	Thr	Pro	Gly	Ile
				50				55			60				
Val	Ala	Phe	Ile	Pro	Gln	Phe	Val	Val	Arg	Pro	Asp	Ala	Val	His	
				65				70			75			80	
Phe	Ile	Lys	Asp	Asn	Thr	Ile	Ser	Val	Lys	Glu	Val	Phe	Ala	Gly	Ala
				85				90				95			
Glu	Trp	Phe	Pro	Thr	Ala	Thr	Pro	Ala	Pro	Leu	Phe	Gly	Phe	Leu	Pro
				100				105			110				
Leu	Ile	Thr	Gly	Thr	Leu	Trp	Val	Ser	Leu	Phe	Ala	Ile	Leu	Ile	Ala
				115				120			125				
Leu	Pro	Phe	Gly	Leu	Ser	Val	Ser	Ile	Tyr	Met	Ser	Glu	Val	Ala	Asp
				130				135			140				
Ser	Lys	Val	Arg	Ser	Trp	Leu	Lys	Pro	Val	Ile	Glu	Leu	Leu	Ser	Gly
				145				150			155			160	
Ile	Pro	Ser	Val	Val	Tyr	Gly	Phe	Phe	Gly	Leu	Ile	Val	Ile	Val	Pro
				165				170			175				
Leu	Ile	Gln	Lys	Val	Phe	Asp	Leu	Pro	Val	Gly	Glu	Ser	Gly	Leu	Ala
				180				185			190				
Gly	Ser	Ile	Val	Leu	Ala	Ile	Met	Ala	Leu	Pro	Thr	Ile	Ile	Thr	Val
				195				200			205				
Thr	Glu	Asp	Ala	Met	Arg	Asn	Cys	Pro	Arg	Ala	Met	Arg	Glu	Ala	Ser
				210				215			220				
Leu	Ala	Leu	Gly	Ala	Ser	Gln	Trp	Gln	Thr	Ile	Tyr	Lys	Val	Val	Ile
				225				230			235			240	
Arg	Leu	His	His	Gly	Ala	Gly	Arg	Ile	Arg	Arg	Leu	Asp	Leu		
				245				250							

<210> 6496  
<211> 424  
<212> PRT  
<213> B.fragilis

<400> 6496

Asn	His	Arg	Asp	Ala	Phe	Leu	Ile	Met	Leu	Leu	Ser	Val	Ala	Val	Ala
1					5				10					15	
Ile	Thr	Val	Leu	Leu	Ser	Val	Ser	Val	Ile	Ala	Ala	Val	Phe	Ser	Val
					20				25			30			
Ser	Ile	Val	Ile	Ala	Val	Phe	Pro	Leu	Phe	His	Val	Gln	Ala	Val	Asp
					35				40			45			
Tyr	Gly	Thr	Gln	Val	Gly	Glu	Leu	Val	Ala	Gln	Ala	Glu	Ile	Phe	Glu
					50				55			60			
Gln	Gly	Ile	Val	Gly	Phe	Val	Gly	Ile	Val	Gly	Ala	Ala	Asp	Ile	Asn
					65				70			75			80
Arg	Glu	Val	Gly	His	Pro	Cys	Asp	Asp	Leu	Cys	Val	Gly	His	His	Ser
					85				90			95			
Asp	Gly	Ser	Gly	Val	Glu	His	Asp	Ile	Val	Glu	Val	Leu	Phe	Glu	Asp

100	105	110
Ile Asp Gly Phe His Gln Cys Leu Ala Cys Gln Gln	Phe Gly Arg Val	
115	120	125
Gly Arg Tyr Gly Ser Ala Gly Glu Asp Ala Gln Gly Ala Gly Tyr Pro		
130	135	140
Gly Gly Leu His His Arg His Gln Val Gly Gly Leu Arg Ala Gly Gln		
145	150	155
Glu Leu Gly Asp Ser Phe Phe Leu Arg Glu Val Glu Asp Leu Val		
165	170	175
Glu Ser Arg Leu Ala Asp Val Glu Pro Tyr Asp Asp Tyr Ser Phe Ala		
180	185	190
Gln Gln Arg Glu Ala Asp Gly Glu Val Gly Gly Tyr Lys Cys Phe Ser		
195	200	205
Phe Ala Ala Asp Gly Arg Gly Asp Gln Asp Asp Phe Ile Leu Phe Ala		
210	215	220
Gln His Lys Leu Gln Val Gly Ala Asp Ala Pro Glu Gly Phe Arg His		
225	230	235
Gln Ala Val Phe Val Phe Ala Asp Ser Asp Ala Ser Arg Phe Pro Val		
245	250	255
Thr Leu Phe Gly Gln Gly Asp Val Ser Asp Asp Gly Gly Gly Gln		
260	265	270
Leu Phe His Ile Gly Pro Ser Phe Tyr Pro Glu Leu Glu Gln Pro His		
275	280	285
Asp Val Asp Asp Gly Tyr Gly Asp Ala His Pro His Asp Glu Gly Tyr		
290	295	300
His Ile Asp Arg Phe Gly Leu Gly Arg Asn Gly Thr Val Val Arg His		
305	310	315
Gly Leu Val Tyr Asp Leu Gly Val Val Gly Ser Gly Gly Gln Cys Asp		
325	330	335
Gly Val Phe Phe Pro Phe Leu Gln Gln His Gln Val Glu Ser Gly Phe		
340	345	350
Asp Leu Leu Leu Pro Gly Asp Ala Asp Glu Leu Ala Phe Leu Arg Gly		
355	360	365
Arg Ile Ala Asp Ala Ala Val Glu Leu Val Gly Leu Thr Val Glu Val		
370	375	380
Gly Leu Gly Asp Gln Gln Ser Phe Leu Asn Ala Val Asp Gly Gly Gln		
385	390	395
Asp Val Phe Ala His Gly Thr Asp Ala Ala Ile Gln Val His Asp His		
405	410	415
Arg Val Ala Phe Arg Gly Val Ala		
420		

&lt;210&gt; 6497

&lt;211&gt; 62

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6497

Glu Met Arg Trp Lys Glu Lys Lys Leu Ile Lys Ile Lys Lys Met			
1	5	10	15
Asn Lys Arg Asn Tyr Thr Thr Glu Glu His Arg Val Ser Gln Arg Ile			
20	25	30	
Phe Phe Pro His His Thr Lys Asp Glu Asn Pro Val Lys Leu Cys Val			
35	40	45	
Leu Cys Gly Glu Pro Pro His Ser Asn Ile Leu Lys Leu Arg			
50	55	60	

&lt;210&gt; 6498

&lt;211&gt; 153

<212> PRT  
<213> B.fragilis

&lt;400&gt; 6498

Arg	His	Pro	Cys	His	Ala	Arg	Lys	His	Pro	Asp	His	His	Pro	Gln	Arg
1					5				10					15	
Ser	Glu	Arg	Ile	Ala	Asp	His	Gln	Gly	Arg	Pro	Arg	Pro	Ser	Gly	Gln
					20				25					30	
Gln	Val	Gln	Pro	Pro	His	Gln	Gln	Cys	Ala	Arg	Ala	Gly	Thr	Pro	Val
					35				40				45		
Arg	Gln	His	Leu	Pro	Ala	Ala	Gly	Asp	Gln	Ser	Arg	Thr	Leu	Pro	Asp
					50				55				60		
Ala	Val	Ala	Glu	Thr	Gly	Arg	Lys	Leu	His	Arg	Thr	Gly	Arg	His	Cys
					65				70			75		80	
Gln	Gln	Arg	Gln	Asp	Arg	Arg	Arg	Gly	His	Gly	Gly	Gln	Arg	Ser	Arg
					85				90				95		
Phe	Ser	Gln	Asp	Gln	Asn	Asp	Leu	Tyr	Asp	Ser	Pro	Arg	His	Gly	Asp
					100				105				110		
Gly	His	Pro	Arg	Ser	His	His	Leu	Arg	His	Gly	Ala	Ala	Pro	Val	Pro
					115				120				125		
Asp	Arg	Arg	Thr	Gly	Arg	Cys	Gly	Lys	Ala	Asp	Leu	Arg	Pro	His	His
					130				135				140		
Arg	Arg	His	Pro	Pro	Gly	Arg	Arg	Gly							
					145				150						

&lt;210&gt; 6499

<211> 262  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6499

Met	Thr	Lys	Arg	Leu	Leu	Phe	Phe	Thr	Leu	Thr	Cys	Ile	Leu	Leu	Ala
1						5			10					15	
Ser	Cys	Gln	Ser	Tyr	Lys	Lys	Val	Pro	Tyr	Leu	Gln	Asp	Pro	Gly	Glu
						20			25					30	
Ala	Gln	Arg	Ala	Val	Ala	Glu	Ala	Lys	Leu	Tyr	Asp	Ala	Arg	Ile	Leu
						35			40				45		
Pro	Lys	Asp	Leu	Leu	Thr	Ile	Val	Val	Ser	Cys	Ser	Asp	Pro	Glu	Leu
						50			55				60		
Ala	Glu	Pro	Phe	Asn	Leu	Thr	Val	Ser	Thr	Pro	Val	Ser	Asn	Thr	Gln
						65			70			75		80	
Lys	Ser	Leu	Thr	Ser	Gln	Pro	Ala	Leu	Gln	Gln	Tyr	Leu	Val	Asp	Asn
						85			90				95		
Arg	Gly	Asn	Ile	Asp	Phe	Pro	Val	Leu	Gly	Thr	Leu	His	Ile	Gly	Gly
						100			105				110		
Leu	Thr	Lys	Gly	Glu	Ala	Glu	Ser	Leu	Ile	Arg	Glu	Lys	Leu	Lys	Gly
						115			120				125		
Tyr	Ile	Lys	Glu	Asn	Thr	Ile	Val	Thr	Val	Arg	Met	Ala	Asn	Tyr	Lys
						130			135				140		
Ile	Ser	Val	Ile	Gly	Glu	Val	Asn	Arg	Pro	Gly	Thr	Phe	Thr	Ile	Ser
						145			150				155		160
Asn	Glu	Lys	Val	Asn	Leu	Phe	Glu	Ala	Leu	Ala	Met	Ala	Gly	Asp	Met
						165			170				175		
Thr	Val	Tyr	Gly	Leu	Arg	Asp	Asn	Val	Arg	Leu	Ile	Arg	Glu	Asp	Ala
						180			185				190		
Asp	Gly	His	Gln	His	Ile	Ile	Thr	Leu	Asn	Met	Asn	Arg	Ala	Asp	Ile
						195			200				205		
Ile	Gln	Ser	Pro	Tyr	Tyr	Tyr	Leu	Gln	Gln	Asn	Asp	Ile	Leu	Tyr	Val
						210			215				220		

Thr Pro Asn Lys Thr Lys Ala Lys Thr Ala Asp Ile Ser Ala Ser Thr  
 225 230 235 240  
 Thr Ile Trp Phe Ser Val Val Gly Thr Leu Val Ser Leu Ala Ser Leu  
 245 250 255  
 Ile Ile Thr Ile Ala Lys  
 260

<210> 6500

<211> 149

<212> PRT

<213> B.fragilis

<400> 6500

Lys Ser Lys Gly Met Lys Lys Val Phe Glu Arg Ile Ile Glu Gly Ile  
 1 5 10 15  
 Leu Thr Cys Ser Gly Phe Val Thr Ser Ile Thr Ile Leu Leu Ile Val  
 20 25 30  
 Leu Phe Leu Phe Thr Glu Ala Phe Gly Leu Phe Ser Ser Lys Val Ile  
 35 40 45  
 Glu Glu Gly Tyr Val Leu Ala Leu Asn Lys Asp Asn Lys Val Ser Glu  
 50 55 60  
 Leu Thr Pro Met Gln Ile Lys Asp Val Phe Asp Glu Glu Ile Thr Asn  
 65 70 75 80  
 Trp Lys Glu Leu Gly Gly Glu Asp Leu Pro Ile Arg Gly Val Pro Ser  
 85 90 95  
 Gly Arg His His Ala Leu Leu Leu Gly Arg Arg Thr Gly Arg Ser Leu  
 100 105 110  
 Arg Glu Cys Arg Gly Lys Asp Tyr Gly Ala Asp Ser Glu Asn Thr Arg  
 115 120 125  
 Tyr Arg Cys Phe Tyr Ser Ser Glu Val Cys Gly Thr Ala Gly Cys Gly  
 130 135 140  
 Thr Phe His Lys Gly  
 145

<210> 6501

<211> 470

<212> PRT

<213> B.fragilis

<400> 6501

Lys Tyr Ser Met Lys Gln Val Leu Arg Phe Asn Lys Val Ile Lys Arg  
 1 5 10 15  
 Ile Val Phe Thr Gly Asp Leu Ile Leu Leu Asn Gly Thr Phe Leu Ser  
 20 25 30  
 Leu Tyr Thr Leu Leu Gly Ser Lys Phe Phe Ala Asp Pro Phe Ile His  
 35 40 45  
 Ser Leu Pro Gln Val Leu Val Leu Leu Asn Leu Cys Tyr Leu Val Ser  
 50 55 60  
 Asn Met Ser Ser Gly Ile Ile Leu His Arg Arg Val Val Arg Pro Glu  
 65 70 75 80  
 Gln Ile Val Trp Arg Ala Leu Arg Asn Ser Ala Gly His Ala Leu Phe  
 85 90 95  
 Phe Ser Cys Ala Leu Thr Phe Gly Asn Phe Gly Ile Leu Ser Ala Arg  
 100 105 110  
 Phe Phe Leu Leu Phe Tyr Ile Ala Phe Thr Leu Leu Leu Val Cys Tyr  
 115 120 125  
 Arg Leu Leu Phe Arg Lys Ile Leu Lys Ser Tyr Arg Lys His Gly Gly  
 130 135 140  
 Asn Ser Arg Ser Ile Ile Leu Val Gly Ser Asn Ser Asn Ile Ile Glu

145	150	155	160												
Leu	Tyr	His	Gln	Met	Thr	Asp	Asp	Val	Thr	Ser	Gly	Phe	Arg	Val	Ile
165	170	175													
Gly	Tyr	Phe	Asp	Asp	Gln	Pro	Gly	Ser	Arg	Phe	Pro	Glu	Lys	Val	Asn
180	185	190													
Tyr	Leu	Gly	Lys	Pro	Gly	Lys	Ile	Val	Asp	Arg	Leu	Lys	Gln	Gly	Gly
195	200	205													
Val	Glu	Gln	Val	Tyr	Cys	Cys	Leu	Pro	Ser	Ala	Arg	Ser	Glu	Glu	Ile
210	215	220													
Leu	Pro	Ile	Ile	Asp	Tyr	Cys	Glu	Asn	His	Leu	Ile	Arg	Phe	Phe	Ser
225	230	235	240												
Val	Pro	Asn	Val	Arg	Ser	Tyr	Leu	Lys	Arg	Arg	Met	Tyr	Phe	Glu	Leu
245	250	255													
Leu	Gly	Asn	Val	Pro	Val	Leu	Cys	Ile	Arg	Gln	Glu	Pro	Leu	Ser	Phe
260	265	270													
Ala	Glu	Asn	Arg	Phe	Arg	Lys	Arg	Val	Phe	Asp	Ile	Ala	Phe	Ser	Leu
275	280	285													
Leu	Phe	Leu	Cys	Thr	Leu	Phe	Pro	Ile	Ile	Tyr	Val	Ile	Val	Gly	Leu
290	295	300													
Thr	Ile	Lys	Ile	Thr	Ser	Pro	Gly	Pro	Ile	Phe	Phe	Lys	Gln	Lys	Arg
305	310	315	320												
Ser	Gly	Glu	Asp	Gly	Arg	Glu	Phe	Trp	Cys	Tyr	Lys	Phe	Arg	Ser	Met
325	330	335													
Lys	Val	Asn	Thr	Gln	Ser	Asp	Thr	Leu	Gln	Ala	Thr	Leu	His	Asp	Pro
340	345	350													
Arg	Lys	Thr	Arg	Phe	Gly	Asn	Phe	Leu	Arg	Lys	Ser	Ser	Ile	Asp	Glu
355	360	365													
Leu	Pro	Gln	Phe	Ile	Asn	Val	Leu	Met	Gly	Asp	Met	Ser	Val	Val	Gly
370	375	380													
Pro	Arg	Pro	His	Met	Leu	Lys	His	Thr	Glu	Gln	Tyr	Ser	Gln	Leu	Ile
385	390	395	400												
Asn	Lys	Tyr	Met	Val	Arg	His	Phe	Val	Lys	Pro	Gly	Val	Thr	Gly	Trp
405	410	415													
Ala	Gln	Val	Thr	Gly	Phe	Arg	Gly	Glu	Thr	His	Glu	Leu	Trp	Gln	Met
420	425	430													
Glu	Gly	Arg	Val	Gln	Arg	Asp	Ile	Trp	Tyr	Ile	Glu	His	Trp	Thr	Phe
435	440	445													
Met	Leu	Asp	Leu	Tyr	Ile	Ile	Tyr	Lys	Thr	Val	Arg	Asn	Ala	Leu	Glu
450	455	460													
Gly	Glu	Lys	Glu	Ala	Tyr										
465	470														

&lt;210&gt; 6502

&lt;211&gt; 198

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6502

Ile	Met	Val	Ile	Ala	Tyr	Leu	Arg	Val	Ser	Thr	Glu	Lys	Gln	Phe	Leu
1	5	10	15												
Ala	Asn	Gln	Lys	Glu	Glu	Ile	Met	Arg	Phe	Ala	Glu	Lys	Asn	Gly	Leu
20	25	30													
Ser	Ile	Asp	Lys	Trp	Tyr	Thr	Glu	Thr	Val	Ser	Gly	Ser	Val	Ser	Thr
35	40	45													
Lys	Asp	Arg	Lys	Leu	Ser	Glu	Leu	Leu	Lys	Arg	Met	His	Pro	Gly	Asp
50	55	60													
Thr	Leu	Ile	Val	Thr	Glu	Ile	Ser	Arg	Leu	Ser	Arg	Thr	Leu	Leu	Glu
65	70	75	80												
Ile	Met	Thr	Ile	Leu	Asn	Phe	Cys	Ile	Lys	Lys	Gln	Val	Val	Leu	Tyr

85	90	95
Ser Thr Lys Glu Gly Tyr Val Phe Gln Asp Asp Ile Asn Ser Lys Val		
100	105	110
Leu Gly Phe Ala Phe Gly Leu Met Ala Glu Ile Glu Arg Asn Leu Ile		
115	120	125
Ser Met Arg Thr Lys Glu Ala Leu Ala Arg Arg Lys Gln Glu Gly Met		
130	135	140
Thr Leu Gly Arg Lys Lys Gly Asp Thr Pro Lys Ile Lys Leu Leu Arg		
145	150	155
Ala Asn Lys Arg Val Leu Thr Lys Glu Leu Asp Lys Gly Thr Thr Tyr		
165	170	175
Ser Glu Leu Ala Glu Lys Met Gly Val Ser Arg Thr Thr Leu Phe Arg		
180	185	190
Phe Met Lys Thr Met Tyr		
195		

&lt;210&gt; 6503

&lt;211&gt; 216

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6503

Ile Lys Gln Met Glu Ser Val Ala Phe Ile Gln Trp Cys Leu Asp His		
1	5	10
Leu Asn Tyr Trp Thr Ile Thr Leu Leu Met Thr Ile Glu Ser Ser Phe		
20	25	30
Ile Pro Phe Pro Ser Glu Val Val Val Pro Pro Ala Ala Tyr Lys Ala		
35	40	45
Ala Val Asn Glu Glu Leu Asn Ile Tyr Leu Val Val Leu Phe Ala Thr		
50	55	60
Leu Gly Ala Asn Leu Gly Ala Ile Ile Asn Tyr Tyr Leu Ala Arg Trp		
65	70	75
Leu Gly Arg Pro Ile Val Tyr Lys Phe Ala Asn Ser Arg Phe Gly His		
85	90	95
Met Cys Leu Ile Asp Glu Ala Lys Val Gln His Ala Glu Glu Tyr Phe		
100	105	110
Asp Lys His Gly Ala Leu Ser Thr Phe Ile Gly Arg Leu Ile Pro Ala		
115	120	125
Val Arg Gln Leu Ile Ser Ile Pro Ala Gly Leu Ala Arg Met Lys Leu		
130	135	140
His Thr Phe Leu Ile Tyr Thr Thr Leu Gly Ala Gly Leu Trp Asn Thr		
145	150	155
Ile Leu Ala Ala Ile Gly Tyr Tyr Leu Ser Thr Val Pro Gly Ile Glu		
165	170	175
Ser Glu Glu Gln Leu Leu Ala Lys Val Thr Glu Tyr Ser His Glu Leu		
180	185	190
Gly Tyr Cys Phe Ile Val Ile Gly Val Phe Ile Val Gly Phe Leu Val		
195	200	205
Tyr Lys Gly Met Lys Lys Lys Lys		
210	215	

&lt;210&gt; 6504

&lt;211&gt; 163

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6504

Cys Phe Ser Val Gly Gly Met Ser Lys Asn Glu Gly Gly Ser Met Arg		
1	5	10
		15

Lys Ile Asp Leu Ile Val Ile His Cys Ser Ala Thr Arg Glu Asp Arg  
     20                       25                       30  
 Cys Phe Thr Glu Phe Asp Leu Asp Val Cys His Arg Arg Arg Gly Phe  
     35                       40                       45  
 Asn Gly Pro Gly Tyr His Phe Tyr Ile Arg Lys Asp Gly Arg Ile Val  
     50                       55                       60  
 Ser Thr Arg Pro Val Glu Lys Ile Gly Ala His Ala Lys Gly His Asn  
     65                       70                       75                       80  
 Ala Thr Ser Ile Gly Ile Cys Tyr Glu Gly Gly Leu Asp Ala Arg Gly  
     85                       90                       95  
 Arg Pro Lys Asp Thr Arg Thr Glu Trp Gln Val His Ser Met Arg Val  
     100                       105                       110  
 Leu Val Lys Thr Leu Leu Lys Gln Tyr Pro Gly Ser Arg Val Cys Gly  
     115                       120                       125  
 His Arg Asp Leu Ser Pro Asp Leu Asn Ala Asn Gly Glu Ile Glu Pro  
     130                       135                       140  
 Glu Glu Trp Ile Lys Gln Cys Pro Cys Phe Asn Val Ile Glu Asp Lys  
     145                       150                       155                       160  
 Lys Leu His

&lt;210&gt; 6505

&lt;211&gt; 285

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6505

Asn Ser Gly Val Leu Cys Gly Glu Ser Asn Ser Lys Leu Asn His Met  
     1                       5                       10                       15  
 Lys Ile Arg Thr Ile Leu Phe Gly Arg Leu Ser Leu Ala Ala Leu His  
     20                       25                       30  
 Ala Asn Ala Gln Arg Ile Lys Gly Ser Asp Thr Val Leu Pro Val Ala  
     35                       40                       45  
 Gln Gln Thr Ala Glu Arg Phe Met Asn Arg Glu Pro Asp Ala Arg Val  
     50                       55                       60  
 Thr Val Thr Gly Gly Thr Gly Val Gly Ile Ser Ala Leu Met Asp  
     65                       70                       75                       80  
 Asn Thr Thr Asp Ile Ala Met Ala Ser Arg Pro Ile Lys Phe Ser Glu  
     85                       90                       95  
 Lys Met Lys Ala Lys Ala Ala Lys Arg Asp Ile Asp Glu Val Ile Val  
     100                       105                       110  
 Ala Tyr Asp Ala Leu Ala Val Val Val His Pro Ser Asp Pro Val Lys  
     115                       120                       125  
 Lys Leu Thr Arg Arg Gln Leu Glu Asp Ile Phe Arg Gly Lys Ile Thr  
     130                       135                       140  
 Asn Trp Lys Gln Val Gly Asp Asp Arg Lys Ile Val Val Tyr Ser  
     145                       150                       155                       160  
 Arg Glu Thr Ser Ser Gly Thr Tyr Glu Phe Phe Lys Glu Ser Val Leu  
     165                       170                       175  
 Lys Asn Lys Asn Tyr Met Ser Ser Ser Leu Ser Met Pro Ala Thr Gly  
     180                       185                       190  
 Ala Ile Ile Gln Ser Val Ser Gln Thr Lys Gly Ala Ile Gly Tyr Val  
     195                       200                       205  
 Gly Leu Ala Tyr Val Ser Pro Arg Ile Lys Thr Leu Ser Ile Ser Tyr  
     210                       215                       220  
 Asp Gly Glu His Tyr Ala Thr Pro Thr Val Glu Asn Ala Thr Asn Lys  
     225                       230                       235                       240  
 Thr Tyr Pro Ile Val Arg Pro Leu Tyr Tyr Tyr Tyr Asp Ala Lys Asn  
     245                       250                       255

Lys Thr Gln Ile Ala Pro Leu Leu Glu Phe Ile Leu Ser Pro Glu Gly  
 260 265 270  
 Gln Asp Ile Ile Lys Lys Ser Gly Tyr Ile Pro Val Lys  
 275 280 285

<210> 6506  
 <211> 147  
 <212> PRT  
 <213> B.fragilis

<400> 6506  
 Leu Met Met Phe Leu Ile Phe Lys Tyr Tyr Thr Ile Met Lys Thr Met  
 1 5 10 15  
 Ile Ile Ser Ile Ile Ala Val Leu Ala Ser Val Ala Val Ser Gly Gln  
 20 25 30  
 Ser Leu Thr Leu Thr Val Lys Asp Val Glu His Val Glu Gly Thr Leu  
 35 40 45  
 Tyr Val Ala Ile Tyr Ser Ser Lys Glu Asn Phe Met Lys Lys Pro Leu  
 50 55 60  
 Phe Gly Phe Arg Val Ala Val Lys Asp Arg Thr Met Thr Ile Pro Cys  
 65 70 75 80  
 Lys Gly Ile Pro Ala Gly Thr Tyr Ala Ile Ser Leu Phe Gln Asp Glu  
 85 90 95  
 Asn Gly Asn Gly Lys Leu Asp Thr Gly Ser Phe Gly Arg Pro Leu Glu  
 100 105 110  
 Lys Phe Gly Phe Ser Asn Asp Ala Glu Gly Ile Met Gly Ala Pro Ser  
 115 120 125  
 Tyr Glu Lys Cys Cys Phe Glu Phe Lys Arg Asp Thr Thr Val Val Ile  
 130 135 140  
 His Leu Lys  
 145

<210> 6507  
 <211> 681  
 <212> PRT  
 <213> B.fragilis

<400> 6507  
 Leu Leu Ile Thr Lys Gly Cys Ser Ser Ser His Val Arg Cys Cys Leu  
 1 5 10 15  
 Ser His Ile Arg Ala Val Arg Pro Gly Tyr Phe Phe Ala Leu Cys Gln  
 20 25 30  
 Ser Phe Met Phe Ala Asp Glu Asn Val Ser Lys Gln Ile Thr Met Lys  
 35 40 45  
 Gly Phe Tyr Val Pro Ala Ala Leu Ser Leu Met Leu Leu Ser Leu Pro  
 50 55 60  
 Ile Ala Ala Gln Ser Val Ala Thr Asp Thr Ile Leu Leu Ala Thr Phe  
 65 70 75 80  
 Asn Asp Ser Ile Ser Leu Asp Glu Val Val Ile Lys Ala His Lys Thr  
 85 90 95  
 Pro Arg Ala Asn Ser Arg Trp Ser Asp Leu Gln Pro Val Asp Leu Val  
 100 105 110  
 Thr Val Gly Gly Ser Asn Gly Asp Leu Tyr Arg Ala Leu Gln Thr Leu  
 115 120 125  
 Pro Gly Ala Gln Leu Gln Gly Glu Ser Gly Arg Leu Leu Val Arg Gly  
 130 135 140  
 Gly Asn Ser Asn Glu Thr Gln Thr Tyr Ile Asp Gly Met His Val Leu  
 145 150 155 160  
 Asn Pro Tyr Thr Thr Gly Thr Asp Thr Pro Ala Arg Gly Arg Tyr

165	170	175
Ser Thr Phe Met Phe Ser Gly Val Asn Leu Ala Ser Gly	Gly Gln Ser	
180	185	190
Gln Glu Tyr Gly Glu Ala Leu Ser Ala Val Leu Pro	Leu Glu Thr Lys	
195	200	205
Asp Tyr Ser Thr Val Asn Lys Phe Gly Met Asn Val	Ser Thr Val Gly	
210	215	220
Met Gly Gly Gly Thr Arg Ala Phe Asn Arg Ser Ser	Leu Ser Leu	
225	230	235
Asn Leu Asp Tyr Gln Asn Leu Ala Pro Tyr Asp Arg	Val Tyr Pro Ser	
245	250	255
Arg Thr Asp Phe Lys Arg Pro Tyr Arg Met Leu Ser	Gly Ala Thr Gln	
260	265	270
Phe Arg Tyr Thr Pro Asn Glu Lys Ile Leu Phe Lys	Phe Tyr Ala Gly	
275	280	285
Tyr Asp Arg Thr Asp Phe Ser Asn Tyr Thr Asp Ile	Asp Arg His Leu	
290	295	300
Phe Gly Leu Gly Glu Asn Asn Ile Tyr Leu Asn	Thr Thr Phe Arg Lys	
305	310	315
Arg Thr Ala Ser Asp Trp Asn Trp Phe Ile Gly	Thr Ala Tyr Ser Phe	
325	330	335
Tyr Asp Arg Lys Val Lys Gly Ala Val Lys Asp Arg	Asp Val Trp Asn	
340	345	350
Glu Arg Gln Gln Glu Phe His Leu Lys Ala Lys Phe	Ser Lys Leu Phe	
355	360	365
Thr Ser Arg Leu Arg Leu Asp Met Gly Val Glu	Thr Phe Val Arg Ser	
370	375	380
Tyr Arg Asn Asp Tyr Gln Leu Glu Thr Leu Arg	Asp Thr His Gln Met	
385	390	395
Tyr Pro Thr Ile Tyr Ala Gly Phe Leu Ser Ser	Ala Phe Tyr Leu Ser	
405	410	415
Glu Asn Leu Lys Thr Glu Ile Ser Leu Arg Pro	Glu Tyr Thr Ser Leu	
420	425	430
Asn Arg Thr Met Asn Trp Ser Pro Arg Ala Ala	Val Ser Tyr Thr Trp	
435	440	445
Asn His Leu Leu Val Ser Val Val Ala Gly Gln	Tyr Thr Gln Leu Pro	
450	455	460
Glu Asn Asp Tyr Leu Ile Arg Asn Ile Ser Leu	Pro Ser Asn Val Cys	
465	470	475
Arg Gln Val Leu Phe Ser Leu Gln Tyr Glu Gln	Gly Arg Phe Tyr	
485	490	495
Lys Ala Glu Phe Tyr Tyr Lys Asn Tyr Lys Lys	Leu Glu Leu Ser Val	
500	505	510
Pro Asp Gly Ile Thr Pro Asp Gly Tyr Gly	Tyr Ser Lys Gly Ile Asp	
515	520	525
Leu Tyr Phe Cys Asp Asn Val Leu Trp Lys Asn	Phe Glu Tyr Arg Leu	
530	535	540
Ser Tyr Ser Tyr Asn Leu Ser Lys Arg Lys	Tyr Arg Glu Tyr Thr Glu	
545	550	555
Leu Thr Val Pro Gln Tyr Ala Thr Arg His His	Ala Ser Leu Val Leu	
565	570	575
Lys Tyr Ser Val Pro Arg Leu Arg Thr Ile Phe	Ser Val Thr Asp Gly	
580	585	590
Val Ala Ser Gly Arg Pro Tyr His Asn Pro Glu	Leu Ser Gly Leu Met	
595	600	605
Asn Asp Glu Val Lys Ser Tyr His Ser Leu Asp	Leu Gly Ile Thr Val	
610	615	620
Leu Ala Gly Lys Lys Val Ile Val His Ala Ser	Ala Thr Asn Leu Leu	
625	630	635
		640

Gly Arg Lys Asn Glu Tyr Gly Arg Ile Asp Gly Glu Ala Val Arg Thr  
           645                 650                 655  
 Ser Ser Asp His Phe Phe Tyr Leu Gly Val Tyr Ile Thr Leu Gly Lys  
           660                 665                 670  
 Lys Val Ala Tyr Asp Val Ser Asn Phe  
           675                 680

<210> 6508

<211> 399

<212> PRT

<213> B.fragilis

<400> 6508

Asn Glu His Phe Lys Ile Lys Thr Ile Val Met Ile Asp Leu Gly Ser  
   1                 5                 10                 15  
 Trp Met Asn Lys Ile Leu Ile Gly Trp Gly Val Asp Pro Lys Ile Ala  
   20                 25                 30  
 Asn Thr Phe Asp Glu Thr Ile Ile Ala Ile Leu Met Ile Phe Ile Ala  
   35                 40                 45  
 Val Gly Leu Asp Tyr Leu Cys Gln Ala Ile Phe Val Gly Gly Met Lys  
   50                 55                 60  
 Arg Leu Ala Arg Lys Thr Ser Tyr Lys Trp Asp Thr Leu Met Val Lys  
   65                 70                 75                 80  
 His Lys Val Ile His His Leu Ile His Ile Leu Pro Gly Ile Leu Met  
   85                 90                 95  
 Tyr Met Leu Leu Pro Met Ala Phe Val His Gly Lys Thr Leu Leu Leu  
   100                 105                 110  
 Val Ser Gln Lys Ile Cys Val Ile Tyr Met Ile Phe Ala Leu Leu Leu  
   115                 120                 125  
 Ala Leu Asn Ser Ser Leu Leu Met Leu Leu Asp Ile Leu Ser Ala Lys  
   130                 135                 140  
 Glu Lys Leu Lys Asp Arg Pro Met Lys Gly Phe Ile Gln Val Leu Gln  
   145                 150                 155                 160  
 Val Leu Val Phe Phe Ile Gly Gly Ile Val Ile Val Ala Ile Ile Val  
   165                 170                 175  
 Asp Lys Ser Pro Ala Thr Leu Phe Ala Gly Leu Gly Ala Ser Ala Ala  
   180                 185                 190  
 Ile Leu Met Leu Val Phe Lys Asp Ser Ile Leu Gly Phe Val Ala Gly  
   195                 200                 205  
 Ile Gln Leu Ser Ala Asn Asp Met Ile Arg Pro Gly Asp Trp Val Thr  
   210                 215                 220  
 Ile Pro Ser Thr Asn Ala Asn Gly Ile Val Glu Glu Ile Thr Leu Asn  
   225                 230                 235                 240  
 Thr Val Lys Ile Gln Asn Phe Asp Asn Thr Ile Ser Thr Val Pro Pro  
   245                 250                 255  
 Tyr Ser Leu Val Asn Gly Ser Phe Gln Asn Trp Arg Gly Met Thr Glu  
   260                 265                 270  
 Ser Gly Gly Arg Arg Val Met Lys Ser Ile Phe Leu Asp Leu Thr Thr  
   275                 280                 285  
 Leu Lys Phe Cys Thr Pro Glu Met Leu Asp Thr Phe Arg Lys Glu Ile  
   290                 295                 300  
 Pro Leu Leu Ala Asp Tyr Gln Pro Glu Glu Gly Val Ile Pro Thr Asn  
   305                 310                 315                 320  
 Ser Gln Val Phe Arg Val Tyr Val Glu Arg Tyr Leu Cys Ser Leu Pro  
   325                 330                 335  
 Val Val Asn Gln Asp Leu Asp Leu Ile Ile Ser Gln Lys Glu Ala Thr  
   340                 345                 350  
 Glu Tyr Gly Val Pro Ile Gln Ile Tyr Phe Phe Ser Arg Asn Lys Ile  
   355                 360                 365

Trp Lys Glu Tyr Glu Arg Ile Gln Ser Asp Ile Phe Asp His Phe Phe  
 370 375 380  
 Ala Met Ile Pro Lys Phe Glu Leu Lys Val Tyr Gln Tyr Ser Asp  
 385 390 395

<210> 6509  
 <211> 620  
 <212> PRT  
 <213> B.fragilis

<400> 6509  
 Asn Thr Asn Gln Ser Ile Ser Pro Gln Lys His Asn Asn Thr Phe Met  
 1 5 10 15  
 Lys Lys Leu Ile Leu Ser Thr Ala Leu Leu Ala Ala Ile Cys Thr Ala  
 20 25 30  
 Gly Gln Ala Gln Glu Thr Asn Asp Tyr Tyr Val Lys His Val Glu Phe  
 35 40 45  
 Pro Gln Gly Ala Thr Leu Glu Gln Lys Val Asp Met Ala Ala Arg Leu  
 50 55 60  
 Val Pro Thr Pro Gln Gln Leu Glu Trp Gln Gln Met Glu Leu Thr Ala  
 65 70 75 80  
 Phe Leu His Phe Gly Ile Asn Thr Phe Thr Gly Arg Glu Trp Gly Asp  
 85 90 95  
 Gly Lys Glu Asn Pro Ala Leu Phe Asn Pro Thr Asp Phe Asp Ala Glu  
 100 105 110  
 Gln Trp Val Arg Ser Leu Lys Glu Ala Gly Phe Lys Met Ala Ile Leu  
 115 120 125  
 Thr Ala Lys His His Asp Gly Phe Cys Leu Trp Pro Thr Lys Thr Thr  
 130 135 140  
 Gly His Ser Val Ala Ala Ser Pro Trp Lys Asp Gly Lys Gly Asp Val  
 145 150 155 160  
 Val Arg Glu Leu Arg Asp Ala Cys Asp Lys Tyr Gly Ile Lys Phe Gly  
 165 170 175  
 Val Tyr Leu Ser Pro Trp Asp Arg Asn Ala Ser Cys Tyr Gly Asp Ser  
 180 185 190  
 Pro Lys Tyr Asn Glu Phe Phe Ile Glu Gln Leu Thr Glu Leu Leu Thr  
 195 200 205  
 Asn Tyr Gly Glu Val His Glu Val Trp Phe Asp Gly Ala Asn Gly Glu  
 210 215 220  
 Gly Pro Asn Gly Lys Lys Gln Glu Tyr Asp Trp Thr Ala Ile Leu Ser  
 225 230 235 240  
 Thr Ile Arg Arg Leu Gln Pro Arg Ala Val Thr Ala Ile Met Gly Asp  
 245 250 255  
 Asp Val Arg Trp Val Gly Asn Glu Arg Gly Leu Gly Arg Glu Thr Glu  
 260 265 270  
 Trp Ser Ala Thr Val Leu Thr Pro Gly Thr Tyr Ala Arg Cys Glu Glu  
 275 280 285  
 Gln Asn Lys Ala Leu Gly Val Lys Ala Thr Ser Lys Asp Leu Gly Gly  
 290 295 300  
 Arg Asp Met Leu Val Asn Ala Lys Glu Leu Phe Trp Tyr Pro Ser Glu  
 305 310 315 320  
 Val Asp Val Ser Ile Arg Pro Gly Trp Phe Tyr His Gln Gln Glu Asp  
 325 330 335  
 Asn Gln Val Lys Ser Leu Lys His Leu Thr Asp Ile Tyr Phe Lys Ser  
 340 345 350  
 Val Gly Tyr Asn Ser Val Leu Leu Leu Asn Ile Pro Pro Asp Gln Arg  
 355 360 365  
 Gly Arg Ile Ser Asp Ala Asp Val Asn Arg Leu Lys Glu Phe Ala Asp  
 370 375 380

Tyr Arg Lys Glu Ile Phe Ala Asp Asn Arg Val Lys Gly Gly Leu Lys  
 385 390 395 400  
 Ala Trp Thr Ala Arg Pro Gly Asp Thr Arg Val Tyr Gln Leu Lys Pro  
 405 410 415  
 Lys Ser Glu Ile Asn Val Val Met Leu Arg Glu Asp Ile Ser Lys Gly  
 420 425 430  
 Gln Arg Met Glu Ala Phe Thr Val Glu Ala Leu Thr Ala Asp Gly Trp  
 435 440 445  
 Lys Glu Ile Ala Lys Gly Thr Thr Val Gly Tyr Lys Arg Leu Ile Arg  
 450 455 460  
 Ile Pro Ala Val Glu Ala Arg Gln Leu Arg Val Lys Val Asp Ala Cys  
 465 470 475 480  
 Arg Leu Ala Ala Asn Ile Ser Glu Val Ala Ala Tyr Tyr Ala Arg Pro  
 485 490 495  
 Leu Glu Glu Ser Ala Ala Lys Glu Asn Trp Asn Asp Leu Pro Arg Thr  
 500 505 510  
 Ala Trp Lys Gln Val Thr Ala Ala Pro Leu Val Ile Asp Leu Gly Lys  
 515 520 525  
 Ala Val Asp Met Thr Gly Phe Val Tyr Ala Pro Ala Asn Ala Glu Ala  
 530 535 540  
 Lys Pro Thr Met Ala Phe Arg Tyr Lys Phe Tyr Ile Ser Thr Asn Gly  
 545 550 555 560  
 Arg Asp Trp Lys Glu Val Pro Thr Thr Gly Glu Phe Ser Asn Ile Met  
 565 570 575  
 His Asn Pro Val Pro Gln Thr Val Ser Phe Gly Asn Lys Val Ser Ala  
 580 585 590  
 Arg Tyr Ile Lys Leu Asp Ala Thr Thr Pro Asp Thr Thr Pro Ala Arg  
 595 600 605  
 Val Asp Leu Lys Glu Ile Gly Ile Arg Leu Gln Lys  
 610 615 620

&lt;210&gt; 6510

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6510

Ser Pro Cys Leu Ser Tyr Leu Ser Asp Ile Leu Tyr Tyr Phe Ala Gly  
 1 5 10 15  
 Lys Ala Asn Lys Ile Gln Tyr Met Gly Ser His Trp Gly Glu Lys Ile  
 20 25 30  
 Arg Arg Tyr Leu Gln Ser Leu Tyr Pro Val Ala Tyr Gln Arg Trp Lys  
 35 40 45  
 Val Val Leu Ile Ser Ser Leu Val Val Phe Leu Ile Leu Leu Val Leu  
 50 55 60  
 Gln Pro Phe Gly Ile Ser Gly Ile Arg Gln His Lys Phe Trp Ile Leu  
 65 70 75 80  
 Val Gly Phe Met Gly Val Thr Ala Val Ser Leu Ser Ile Pro Met Tyr  
 85 90 95  
 Val Phe Gly Lys Leu Phe Pro Lys Phe Tyr Lys Glu Glu Thr Trp Thr  
 100 105 110  
 Val Trp Lys Gln Ile Val Asn Leu Leu Gln Ile Leu Phe Phe Ile Ala  
 115 120 125  
 Ile Gly Asn Trp Ile Tyr Ser Thr Leu Val Phe Gly Trp Gly Leu Arg  
 130 135 140  
 Trp Asp Val Phe Cys Ala Phe Ala Leu Phe Thr Leu Val Ile Gly Leu  
 145 150 155 160  
 Phe Pro Thr Val Leu Phe Ile Leu Leu Asn Gln Asn Arg Leu Leu Ala  
 165 170 175

Ile His Leu Lys Glu Ala Thr Glu Met Asn Leu His Leu Gln Arg Ser  
           180                 185                 190  
 Val Leu Leu Ala Glu Ser Val Glu Thr Thr Gln Asp Ser Pro Phe Leu  
           195                 200                 205  
 Leu Phe Gln Gly Gly Ile Arg Glu Ser Leu Glu Leu Asp Ser Lys Asp  
           210                 215                 220  
 Leu Leu Tyr Val Glu Ser Asn Gly Asn Tyr Ile Arg Val Asn Tyr Gln  
           225                 230                 235                 240  
 Lys Ala Gly Lys Asn Val Gln Cys Leu Leu Arg Ala Thr Met Lys Gln  
           245                 250                 255  
 Ala Glu Glu Val Thr Ala Val Cys Pro Leu Val Leu Lys Cys His Arg  
           260                 265                 270  
 Ala Phe Leu Val Asn Val Arg Lys Val Val Lys Val Asn Gly Asn Ser  
           275                 280                 285  
 Gln Gly Tyr Arg Leu Leu Leu Glu Gly Cys Pro Glu Glu Ile Pro Val  
           290                 295                 300  
 Ser Arg Gly Tyr Ser Lys Gln Val Lys Glu Leu Ile Glu Gly Ile Ser  
           305                 310                 315                 320  
 Gly Asp

&lt;210&gt; 6511

&lt;211&gt; 91

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6511

Ser Val Gln Lys Ser Ile Phe Ala Pro Thr Lys Leu Ile Glu Met Leu  
   1              5                 10                 15  
 Tyr Thr Ile Leu Ile Thr Leu Leu Ile Val Ala Ile Cys Leu Gly Leu  
           20                 25                 30  
 Leu Gly Ile Lys Val Phe Phe Thr Lys Gly Gly Lys Phe Pro Asn Gly  
           35                 40                 45  
 His Val Ser Gly Asn Lys Ala Leu Arg Glu Arg Gly Ile Ser Cys Ala  
           50                 55                 60  
 Gln Ser Gln Asp Arg Glu Ala Gln Lys Lys Arg Arg Phe Ser Ile Asp  
           65                 70                 75                 80  
 Glu Ile Glu Lys Ala Leu Asn Asp Ser Met Asn  
           85                 90

&lt;210&gt; 6512

&lt;211&gt; 209

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6512

Leu Ile Lys Lys Leu Tyr Phe Thr Ser Met Lys Arg Met Asn Tyr Leu  
   1              5                 10                 15  
 Ile Asn Gly Phe Ala Ala Leu Ala Phe Leu Phe Ser Gln Cys  
           20                 25                 30  
 Ala Gly Lys Ala Asp Asn Ala Ala Pro Ala Ala Ser Gly Asn Ala Asn  
           35                 40                 45  
 Gly Thr Ser Gly Leu Lys Ile Ala Tyr Val Glu Val Asp Thr Leu Leu  
           50                 55                 60  
 Ser Gln Tyr Asn Phe Cys Lys Asp Leu Asn Ala Asp Met Ile Ser Lys  
           65                 70                 75                 80  
 Glu Glu Asn Ser Arg Met Val Leu Asn Gln Lys Ala Asn Glu Leu Arg  
           85                 90                 95  
 Lys Ser Gln Gln Glu Phe Gln Lys Lys Tyr Glu Ser Asn Ala Phe Ile

100	105	110
Ser Gln Glu Arg Ala Gln Gln	Glu Tyr Thr Arg Leu Ala Lys Leu Glu	
115	120	125
Gln Asp Leu Gln Ala Leu Gln	Asn Lys Leu Ala Thr Glu Met Ala Ser	
130	135	140
Glu Asn Ala Lys Asn Ser Gln	Ile Leu Arg Asp Ser Ile Asn Ala Phe	
145	150	155
Leu Lys Glu Tyr Asn Lys Thr Lys Gly	Tyr Asn Leu Ile Ile Ser Asn	
165	170	175
Thr Ser Phe Asp Asn Leu Leu Tyr Ala	Asp Ser Thr Leu Asn Ile Thr	
180	185	190
Lys Glu Ile Val Asp Gly Leu Asn Ala Arg	Tyr Thr Pro Val Ala Lys	
195	200	205
Lys		

&lt;210&gt; 6513

&lt;211&gt; 288

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6513

Gln Ile Ile Glu Ser Ile Leu Leu Ile	Tyr Lys Ser Leu Leu Phe Met		
1	5	10	15
Met Arg Ile Arg Ile Ile Ile	Thr Leu Leu Ile Ala Leu Phe Val Glu		
20	25	30	
Ser Arg Gln Glu Ala Phe Gly Gln	Thr Val Asp Thr Leu Ser Leu Ser		
35	40	45	
Asp Lys Val Ile Arg Thr Ala Ser	Phe Ala Thr Gly Phe Arg Gly Glu		
50	55	60	
Val Trp Arg Asn Pro Ala Leu Tyr	Tyr Tyr Thr Pro Tyr Thr Trp		
65	70	75	80
Thr Arg Leu Asp Val Asn Gly Ala	Tyr His Asp Lys Gly Lys Ala Ser		
85	90	95	
Leu Lys Gln Glu Gly Asp Lys Asp	Thr His Ile Gly Val Asp Val His		
100	105	110	
Ser Phe Val Ile Leu Ser Gly Arg	Asp Arg Val Phe Gly Ser Ala Gly		
115	120	125	
Tyr Arg Ser Glu Lys Gln Glu Asn	Val Leu Trp Asn Glu Asn Ile Asp		
130	135	140	
Trp Lys Leu Ile Ala Pro Tyr Val	Thr Gly Asp Ser Ile Gly Gly Phe		
145	150	155	160
Leu Lys Gly Glu Thr Tyr Tyr Phe	Asn Gly Gly Tyr Ala Ser Glu Ser		
165	170	175	
Gly Ser Trp Thr Trp Gly Ile	Thr Gly Tyr Arg Ala Ser His Asn		
180	185	190	
Tyr Arg Asp Lys Asp Pro Arg	Pro Arg Asn Thr Ala Ser Asp Leu Ser		
195	200	205	
Phe Ala Leu Gly Ala Gly Tyr	Arg Leu Gly Ala Tyr Arg Leu Gly Val		
210	215	220	
Ser Thr Asp Phe Arg Leu Tyr Gln	Gln Lys Ser Glu Ile Ser Phe Leu		
225	230	235	240
Ala Asp Lys Gly Ser Thr Ser Val	Tyr His Met Leu Gly Leu Gly Met		
245	250	255	
Asp Tyr Val Arg Phe Ala Gly Asn	Gln Thr Gly Thr Lys His Gln Gly		
260	265	270	
Thr Ser Ser Pro Arg Gly Trp Met	Gly Ser Ala Leu Cys Thr Leu Ala		
275	280	285	

<210> 6514  
<211> 356  
<212> PRT  
<213> B.fragilis

<400> 6514

Thr	Ser	Thr	Glu	Gln	His	Leu	Lys	Gly	Ile	Gln	Ser	Met	Leu	Arg	Leu
1				5					10					15	
Phe	Phe	Ile	Leu	Leu	Ile	Ser	Leu	Ser	Ser	Leu	Phe	Leu	Ser	Ala	Gln
					20				25					30	
Asn	Arg	Pro	Pro	Phe	Arg	Val	Val	Phe	Trp	Asn	Thr	Glu	Asn	Phe	Phe
					35				40					45	
Asp	Thr	Arg	His	Asp	Ser	Leu	Lys	Asn	Asp	Met	Glu	Phe	Leu	Pro	His
					50				55					60	
Ser	Met	Arg	His	Trp	Asn	His	Arg	Arg	Tyr	Lys	Lys	Lys	Leu	Asp	Asn
	65				70				75					80	
Val	Ala	Arg	Thr	Leu	Thr	Ala	Ile	Gly	Glu	Trp	Asn	Phe	Pro	Ala	Leu
					85				90					95	
Ile	Gly	Leu	Cys	Glu	Val	Glu	Asn	Asp	Thr	Val	Met	Arg	Asp	Leu	Thr
					100				105					110	
Leu	Tyr	Ser	Pro	Leu	Lys	Glu	Ala	Gly	Tyr	Arg	Tyr	Val	Met	Thr	His
					115				120					125	
Cys	Ser	Asp	Leu	Arg	Gly	Ile	Asp	Val	Ala	Leu	Leu	Tyr	Gln	Arg	Asp
					130				135					140	
Arg	Phe	Lys	Leu	Leu	Ser	Tyr	Ser	Ala	Leu	Ser	Val	Gly	Asn	Phe	Lys
	145				150				155					160	
Gly	His	Arg	Pro	Thr	Arg	Asp	Ile	Leu	His	Val	Ser	Gly	Leu	Leu	Leu
					165				170					175	
Thr	Gly	Asp	Thr	Leu	Asp	Ile	Met	Val	Ala	His	Leu	Pro	Ser	Arg	Ser
					180				185					190	
Gly	Gly	Val	Arg	Gln	Ser	Glu	Pro	Tyr	Arg	Leu	Tyr	Ala	Ala	Gln	Lys
					195				200					205	
Leu	Lys	Asp	Ala	Ala	Asp	Ser	Leu	Ile	Asn	Val	Arg	Pro	Ser	Ala	Lys
					210				215					220	
Leu	Ile	Ile	Met	Gly	Asp	Phe	Asn	Asp	Tyr	Pro	Thr	Asp	Lys	Ser	Val
					225				230					240	
Val	Gln	Val	Leu	Gln	Ala	Leu	Ser	Pro	Glu	Val	Ser	Thr	His	His	Asp
						245			250					255	
Arg	Leu	Tyr	His	Leu	Leu	Ala	Arg	Lys	Ala	Lys	Asp	Arg	Asn	Phe	Gly
						260			265					270	
Ser	Tyr	Lys	Tyr	Gln	Gly	Glu	Trp	Gly	Leu	Leu	Asp	His	Leu	Ile	Val
						275			280					285	
Ser	Gly	Thr	Leu	Leu	Asp	Ile	Ser	Gly	Thr	Leu	Phe	Thr	Glu	Glu	Lys
						290			295					300	
Lys	Ala	Asn	Val	Ala	Arg	Leu	Pro	Phe	Leu	Leu	Thr	Lys	Asp	Glu	Lys
						305			310					320	
Tyr	Gly	Gly	Met	Gln	Pro	Phe	Arg	Thr	Tyr	Val	Gly	Met	Lys	Tyr	Gln
						325			330					335	
Glu	Gly	Tyr	Ser	Asp	His	Leu	Pro	Val	Tyr	Val	Asp	Phe	Glu	Thr	Asn
						340			345					350	
Gln	Ser	Glu	Tyr												
					355										

<210> 6515  
<211> 408  
<212> PRT  
<213> B.fragilis

<400> 6515

Asn Lys Ile Glu Met Lys Met Lys Asn Gln Leu Thr Met Ala Ile  
 1 5 10 15  
 Leu Phe Ala Thr Met Leu Gly Phe Thr Ala Cys Ser Asp Asp Asp Lys  
 20 25 30  
 Val Asn Ile Ser Thr Val Ser Ile Thr Thr Thr Val Asp Thr Thr Ile  
 35 40 45  
 Glu Gly Leu Gln Leu Thr Gly Gly Thr Tyr Thr Phe Glu Asn Ile Asn  
 50 55 60  
 Thr Ser Val Lys Thr Asp Val Ala Tyr Pro Leu Gln Ser Ile Glu Leu  
 65 70 75 80  
 Ala Asp Gly Leu Tyr Asn Val Thr Phe Ile Gly Lys Gly Thr Tyr Ser  
 85 90 95  
 Gln Asn Gly Thr Ser Val Glu Val Asp Val Gln Gly Val Gln Gln Asn  
 100 105 110  
 Val Thr Val Ser Gly Gly Ser Cys Lys Leu Glu Leu Thr Val His Val  
 115 120 125  
 Leu Asn Thr Gly Glu Pro Gly Phe Val Ile Ala Glu Ile Phe Ile Pro  
 130 135 140  
 Gly Thr Tyr Asn Glu Ala Gly Lys Gln Tyr Asn Gly Asp Gln Tyr Val  
 145 150 155 160  
 Arg Ile Tyr Asn Asn Ser Asp Lys Val Leu Tyr Ala Asp Gly Leu Ile  
 165 170 175  
 Phe Met Glu Ser Gln Phe Gln Thr Thr Gln Lys Tyr Gln Ser Val Asp  
 180 185 190  
 Pro Asp Ile Met Asn Glu Ala Ile Ala Val Gly Ser Val Val Ala Val  
 195 200 205  
 Pro Gly Ser Gly Thr Asp His Pro Val Gln Pro Gly Glu Ser Phe Ile  
 210 215 220  
 Leu Cys Asp Asn Ala Ile Asn His Lys Glu Ala Asn Pro Asn Ser Ile  
 225 230 235 240  
 Asp Leu Ser Lys Ala Asn Phe Glu Trp Tyr Ile Glu Ser Lys Gln Asp  
 245 250 255  
 Val Asp Asn Pro Ala Val Pro Asn Leu Asp Ile Tyr Tyr Cys Tyr Ser  
 260 265 270  
 Lys Thr Ile Trp Val Leu Asn Lys Gln Gly Asn Arg Ala Tyr Ala Ile  
 275 280 285  
 Gly Arg Leu Pro Gln Gly Met Thr Lys Glu Lys Tyr Ile Ser Asp Tyr  
 290 295 300  
 Ala Tyr Asn Tyr Thr Tyr Ile Met Gln Asn Gly Thr Ala Ser Lys Pro  
 305 310 315 320  
 Gln Ser Lys Tyr Lys Phe Pro Asn Glu Trp Ile Ile Asp Ala Val Asn  
 325 330 335  
 Val Gly Ala Ser Asn Glu Trp Gln Trp Asn Val Thr Ser Thr Gly Leu  
 340 345 350  
 Asp Met Gly His Thr Tyr Val Gly Val Asn Asn Thr Ile Ala Glu Asn  
 355 360 365  
 Ile Gly Lys Cys Val Met Arg Lys Val Ala Tyr Lys Asp Gly Glu Arg  
 370 375 380  
 Glu Val Leu Gln Asp Thr Asn Asn Ser Thr Val Asp Phe Thr Pro Ala  
 385 390 395 400  
 Ala Thr Pro Ser Leu Phe Asn Lys  
 405

&lt;210&gt; 6516

&lt;211&gt; 114

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6516

Val Ile Ser Phe Ile Phe Ala Thr Gly Ile Asn Glu Lys Ile Met Gly  
 1 5 10 15  
 Lys Leu Ile Thr Ile Trp Glu Phe Ile Gly Arg His Lys Tyr Trp Ile  
 20 25 30  
 Thr Val Val Ala Phe Gly Val Ile Ile Gly Phe Leu Asp Glu Asn Ser  
 35 40 45  
 Met Ile Arg Arg Ile Gly Tyr Ala Arg Glu Ile Ser Arg Leu Gln Gly  
 50 55 60  
 Glu Ile Asp Lys Tyr Arg Ala Glu Tyr Glu Glu Asn Thr Glu Arg Leu  
 65 70 75 80  
 Asn Glu Leu Ser Thr Asn Pro Glu Ala Ile Glu Gln Ile Ala Arg Glu  
 85 90 95  
 Lys Tyr Leu Met Lys Lys Pro Asn Glu Asp Ile Tyr Val Phe Asp Glu  
 100 105 110  
 Glu Glu

<210> 6517  
 <211> 939  
 <212> PRT  
 <213> B.fragilis

<400> 6517  
 Ile Asp Thr Leu Leu Tyr Leu Ile Phe Gly Ile Ala Ser Ala Ala Asp  
 1 5 10 15  
 Ile Leu Tyr Phe Cys Glu Leu Ile Glu Ser Lys Met Ile Arg Lys Ile  
 20 25 30  
 Ala Tyr Thr Phe Phe Ser Phe Leu Ile Cys Cys Asn Val Ser Leu Ala  
 35 40 45  
 Trp Gly Gln Thr Phe Ala Phe Arg Gly Thr Val Leu Asp Glu Gln Thr  
 50 55 60  
 His Lys Ala Leu Asp Tyr Ala Thr Ile Gln Leu Phe Val Glu Lys Gln  
 65 70 75 80  
 Phe Ala Tyr Gly Gly Ile Thr Asp Ala Asn Gly His Phe Glu Leu Leu  
 85 90 95  
 His Ile His Pro Gly Thr Tyr Arg Ile Ile Ser Tyr Leu Gly Tyr  
 100 105 110  
 Asp Ser Thr Glu Lys Glu Ile Lys Val Val Gly Asn Thr Ser Asp Ile  
 115 120 125  
 Phe Tyr Leu Lys Pro Ser Asn Met Ala Leu Asn Glu Val Val Val Thr  
 130 135 140  
 Ala Ser Glu Ser Lys Arg Ala Thr Ser Ala Ser Ile Val Asp Arg Thr  
 145 150 155 160  
 Ala Met Lys His Leu Gln Pro Ser Ser Phe Ser Asp Leu Met Glu Leu  
 165 170 175  
 Val Pro Gly Gly Lys Ser Ala Asp Pro Gln Met Gly Gln Ala Asn Leu  
 180 185 190  
 Ile Arg Ile Arg Glu Thr Gly Lys Thr Glu Asp Ile Ser Ser Leu Gly  
 195 200 205  
 Val Gly Phe Tyr Ile Asp Gly Ile Phe Gln Asn Thr Asp Ala Asn Leu  
 210 215 220  
 Gln Tyr Met Pro Ser Ser Thr Ser Ala Val Asn Ala Thr Ser Thr Met  
 225 230 235 240  
 Ser Lys Gly Val Asp Met Arg Thr Ile Pro Thr Asp Asn Ile Glu Lys  
 245 250 255  
 Val Glu Ile Ile Arg Gly Ile Pro Ser Val Ala Tyr Gly Asn Val Ala  
 260 265 270  
 Asn Gly Ala Val Ile Ile Gln Arg Lys Thr Ser Glu Ser Pro Leu Ser  
 275 280 285

Ala Arg Phe Lys Ala Asp Lys Thr Ser Lys Leu Phe Ser Val Gly Lys  
 290 295 300  
 Gly Phe Arg Leu Asp Gly Asn Gly Arg Tyr Val Leu Asn Thr Asp Leu  
 305 310 315 320  
 Ser Tyr Leu Asp Ser Lys Ile Asp Pro Arg Asn Ser Val Lys Asn Tyr  
 325 330 335  
 Thr Arg Leu Thr Ala Ser Ala Arg Leu Asp Gly Lys Trp Leu Trp Asn  
 340 345 350  
 Glu Arg Asn Ile His Trp Asn Leu Ser Thr Asp Tyr Thr Gly Ser Phe  
 355 360 365  
 Asp Asp Ala Lys Arg Asp Lys Asp Ala Thr Val Lys Glu Asp Ser Tyr  
 370 375 380  
 Lys Ser Asp Phe Ser Ser Phe Lys Met Ala Gly Lys Trp Asn Leu Lys  
 385 390 395 400  
 Phe Ser Asn His Ser Trp Ile Arg Glu Ile His Ala Ala Thr Ser Val  
 405 410 415  
 Ser Trp Gln Trp Glu Lys Met Arg Glu Thr Lys Ser Val Ser Leu Asn  
 420 425 430  
 Arg Pro Ala Ala Ile Ala Thr Gln Thr Glu Thr Gly Glu Ser Asp Gly  
 435 440 445  
 Ile Tyr Leu Pro Tyr Asn Tyr Val Ala Gln Met Glu Ile Asp Gly Lys  
 450 455 460  
 Pro Leu Tyr Val Thr Val Ser Ala Arg Thr His Leu Ala Phe Pro Leu  
 465 470 475 480  
 Gly Gly Leu Gln Asn Arg Met Asn Leu Gly Val Glu Trp Asn Tyr Gln  
 485 490 495  
 Lys Asn Leu Gly Lys Gly Gln Val Phe Asp Val Thr Arg Pro Ile Ser  
 500 505 510  
 Glu Gly Leu Ser Thr Arg Pro Arg Arg Phe Lys Asp Ile Pro Gly Leu  
 515 520 525  
 Gln Pro Phe Ala Phe Tyr Ala Glu Glu Val Leu Asn Leu Pro Val Lys  
 530 535 540  
 Arg His Lys Leu Ala Phe Thr Ala Gly Ile Arg Leu Gln Ser Leu Leu  
 545 550 555 560  
 Gly Leu Asp Arg Lys Tyr Glu Met Gln Gly Lys Ile Tyr Pro Asp Leu  
 565 570 575  
 Arg Leu Asp Leu Gln Trp Ser Leu Pro Thr Ser Asn Gly Trp Asn Ile  
 580 585 590  
 Ala Phe Ser Gly Gly Leu Gly Trp Ile Ser Arg Met Pro Thr Thr Ala  
 595 600 605  
 Gln Leu Tyr Pro Asp Phe Lys Tyr Val Asp Leu Ile Gln Leu Asn Tyr  
 610 615 620  
 Tyr His Asn His Pro Asp Tyr Arg Arg Ile Asn Met Met Thr Tyr Lys  
 625 630 635 640  
 Trp Asp Asn Thr Asn Tyr Gln Leu Glu Pro Ala Arg Asn Met Lys Trp  
 645 650 655  
 Glu Val Arg Ala Asp Ile Gly Tyr Lys Gly Asn Arg Leu Ser Ala Thr  
 660 665 670  
 Tyr Phe Arg Glu Arg Met Asn Asn Ala Phe Asp Asp Leu Thr Tyr Tyr  
 675 680 685  
 Lys Ser Leu Ala Tyr Lys Leu Tyr Asp Pro Ala Ser Ile Asp Gly Ser  
 690 695 700  
 Ala Leu Thr Ala Pro Pro Glu Leu Ser Gln Leu Thr Tyr Ala Asn Glu  
 705 710 715 720  
 Tyr Asn Leu Asp Val Tyr Ser Thr Gln Gly Asn Gly Met Lys Val His  
 725 730 735  
 Lys Glu Gly Val Glu Phe Gln Phe Ala Ser Arg Arg Ile Glu Ser Leu  
 740 745 750  
 Lys Thr Arg Val Thr Val Tyr Gly Ala Trp Ile Lys Thr Val Tyr Ser

755	760	765
Ser Asp Ser Pro Lys Tyr	Lys Ala Ser Ser Ile Leu	Leu Asp Asn Lys
770	775	780
Gln Leu Lys Tyr Val Gly	Leu Tyr Gln Gly Glu	Asn Gly Thr Glu Ser
785	790	795
Gln Ala Phe Asn Thr Asn Phe Met Phe Asp	Thr Tyr Ile Gln Arg	Leu
805	810	815
Gly Leu Thr Phe Ser Thr Ser Ala Gln Cys	Thr Trp Tyr Thr Asn Arg	
820	825	830
Arg Asn Leu Trp Asn Asn Gly Val Pro Val Ser	Tyr Ile Asp Gln Ser	
835	840	845
Gly Glu Thr His Leu Phe Arg Glu Glu Asp Lys	Asn Asn Ile Gln Leu	
850	855	860
Gln His Leu Val Glu Lys Tyr Ser Ala Thr	Tyr Phe Glu Arg Thr	Thr
865	870	875
Val Pro Phe Tyr Met Asp Ile Asn Leu Lys Ala	Ser Lys Arg Ile Gly	
885	890	895
Lys Tyr Leu Asn Leu Ala Phe Tyr Val Asn Arg	Leu Leu Gly Ile Tyr	
900	905	910
Pro Asp Tyr Thr Leu Arg Gly Val Leu Gln Arg	Arg Thr Ser Glu Ser	
915	920	925
Pro Tyr Phe Gly Met Glu Met Asn Leu Thr Phe		
930	935	

&lt;210&gt; 6518

&lt;211&gt; 566

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6518

Gln His Thr Trp Ile Val His Ile Ala Cys Met Asn Val Arg Lys Ile		
1	5	10
Ile Leu Pro Ser Leu Ser Gly His Trp Ala Thr Lys Pro Gly Asn Gly		
20	25	30
Ile Asn Phe Glu Arg Thr Tyr Asp Trp Leu Lys Ser Val Glu Lys Ser		
35	40	45
Arg Pro Val Gln Tyr Glu Arg Ala Glu Gln Asn Tyr Asn Thr Asp Ile		
50	55	60
Tyr Cys Arg Met Tyr Arg Ser Val Asp Glu Ile Lys Ala Tyr Leu Ala		
65	70	75
Gln Lys Asp Ile Tyr Arg Pro Phe Ile Leu Cys Glu Tyr Val His Ala		
85	90	95
Met Gly Asn Ser Val Gly Leu Lys Glu Tyr Trp Asp Val Phe Glu		
100	105	110
Asn Asn Pro Met Ala Gln Gly Gly Cys Val Trp Asp Trp Val Asp Gln		
115	120	125
Ser Phe Arg Glu Ile Asp Ser Asn Gly Arg Trp Tyr Trp Ser Tyr Gly		
130	135	140
Gly Asp Tyr Gly Pro Lys Gly Ile Pro Ser Phe Gly Asn Phe Cys Cys		
145	150	155
Asn Gly Leu Val Ser Ala Asp Arg Val Pro His Pro His Leu Leu Glu		
165	170	175
Val Lys Lys Ile Tyr Gln Asn Ile Lys Cys Thr Leu Ile Asn Lys Asn		
180	185	190
Asn Leu Thr Val Arg Val Lys Asn Trp Phe Asp Phe Ser Asn Leu Asn		
195	200	205
Glu Tyr Ile Leu His Trp Gln Val Val Gly Asp Asn Gly Lys Leu Leu		
210	215	220
Ala Glu Gly Asn Lys Glu Val Asn Cys Ala Pro His Ala Thr Ala Asp		

225	230	235	240
Val Thr Leu Gly Lys Val Ala Leu Pro Ala Asn Val Arg Glu Gly Tyr			
245	250	255	
Leu Asn Leu Ser Trp Thr Arg Lys Glu Ala Ser Pro Met Val Gly Thr			
260	265	270	
Asp Trp Glu Val Ala Tyr Asp Gln Phe Val Leu Pro Gly Thr Lys Gly			
275	280	285	
Ser Thr Ala Tyr Leu Pro Ala Lys Ala Gly Gln Thr Ala Phe Thr Val			
290	295	300	
Asp Lys Glu Thr Gly Ala Leu Asn Ser Leu Thr Leu Asp Gly Gln Glu			
305	310	315	320
Leu Leu Ala Thr Pro Val Thr Leu Ser Leu Phe Arg Pro Ala Thr Asp			
325	330	335	
Asn Asp Asn Arg Asp Arg Asn Gly Ala Tyr Leu Trp Arg Lys Ala Gly			
340	345	350	
Leu Asn Gln Leu Thr Gln Lys Val Val Ser Leu Lys Asp Gly Lys Lys			
355	360	365	
Ala Ala Thr Ala Lys Val Glu Ile Leu Asn Ala Lys Gly Met Lys Val			
370	375	380	
Gly Asp Ala Asp Phe Ala Tyr Ser Leu Asn Ser Ala Gly Ala Leu Lys			
385	390	395	400
Thr Lys Val Thr Phe Arg Pro Asp Thr Ala Val Val Lys Ser Met Ala			
405	410	415	
Arg Leu Gly Leu Thr Phe Glu Met Asn Asp Thr Tyr Gly Asn Val Ala			
420	425	430	
Tyr Leu Gly Arg Gly Asp Asn Glu Thr Tyr Ser Asp Arg Met Gln Ser			
435	440	445	
Gly Lys Ile Ala Leu Tyr Gln Thr Thr Ala Glu Arg Met Phe His Tyr			
450	455	460	
Tyr Val Thr Pro Gln Ser Thr Gly Asn Arg Thr Asp Val Arg Trp Met			
465	470	475	480
Lys Leu Thr Asp Glu Thr Gly Gln Gly Ile Phe Val Asp Ser Asn Arg			
485	490	495	
Pro Phe Gln Phe Ser Val Ile Pro Phe Ala Asp Asp Val Leu Glu Lys			
500	505	510	
Ala Arg His Ile Asn Asp Leu Glu Arg Asn Gly His Val Thr Val His			
515	520	525	
Leu Asp Ala Glu Gln Ala Gly Val Gly Thr Ala Thr Cys Gly Pro Gly			
530	535	540	
Val Gln Pro Gln Tyr Arg Val Pro Val Thr Glu Gln Ser Phe Glu Phe			
545	550	555	560
Thr Leu Arg Thr Val Lys			
565			

&lt;210&gt; 6519

&lt;211&gt; 641

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6519

Asn Leu Phe Arg Phe Leu Phe Tyr Pro Cys Thr Phe Leu Arg Thr Phe			
1	5	10	15
Ala Gln Thr Gln Lys Ile Glu Ile Ile Arg Asn Met Glu Asn Tyr Ile			
20	25	30	
Val Ser Ala Arg Lys Tyr Arg Pro Ser Thr Phe Glu Ser Val Val Gly			
35	40	45	
Gln Arg Ala Leu Thr Thr Leu Lys Asn Ala Ile Ala Thr Gln Lys			
50	55	60	
Leu Ala His Ala Tyr Leu Phe Cys Gly Pro Arg Gly Val Gly Lys Thr			

65	70	75	80
Thr Cys Ala Arg Ile Phe Ala Lys Thr		Ile Asn Cys Met Asn Leu	Thr
85		90	95
Ala Asp Gly Glu Ala Cys Asn Glu	Cys	Glu Ser Cys Val Ala	Phe Asn
100		105	110
Glu Gln Arg Ser Tyr Asn Ile His	Glu	Leu Asp Ala Ala	Ser Asn Asn
115		120	125
Ser Val Asp Asp Ile Arg Gln	Leu	Val Glu Gln Val Arg Ile Pro Pro	
130		135	140
Gln Ile Gly Lys Tyr Lys Val	Tyr	Ile Asp Glu Val His Met Leu	
145		150	160
Ser Ala Ser Ala Phe Asn Ala Phe	Leu	Lys Thr Leu Glu Glu Pro Pro	
165		170	175
Arg His Ala Ile Phe Ile Leu Ala	Thr	Glu Lys His Lys Ile Leu	
180		185	190
Pro Thr Ile Leu Ser Arg Cys	Gln	Ile Tyr Asp Phe Asn Arg Ile Ser	
195		200	205
Val Asp Asp Thr Val Asn His	Leu	Thr Tyr Val Ala Ser Lys Glu Gly	
210		215	220
Ile Thr Ala Glu Pro Glu	Ala	Leu Asn Val Ile Ala Leu Lys Ala Asp	
225		230	240
Gly Gly Met. Arg Asp Ala Leu Ser	Ile	Phe Asp Gln Val Val Ser Phe	
245		250	255
Thr Gly Gly Asn Ile Thr Tyr Lys	Ser	Val Ile Glu Asn Leu Asn Val	
260		265	270
Leu Asp Tyr Glu Tyr Tyr Phe	Arg	Leu Thr Asp Cys Phe Leu Glu Asn	
275		280	285
Lys Val Ser Asp Ala Leu Leu	Leu	Phe Asn Asp Val Leu Asn Lys Gly	
290		295	300
Phe Asp Gly Ser His Phe	Ile	Thr Gly Leu Ser Ser His Phe Arg Asp	
305		310	320
Leu Leu Val Ser Lys Asp Ala Ala	Thr	Leu Gln Leu Leu Glu Val Gly	
325		330	335
Ala Gly Ile Arg Gln Arg Tyr	Gln	Glu Gln Ala Gln Lys Cys Ala Leu	
340		345	350
Pro Phe Leu Tyr Arg Ala Met	Lys	Leu Cys Asn Asp Cys Asp Met Asn	
355		360	365
Tyr Arg Ala Ser Lys Asn Lys	Arg	Leu Leu Val Glu Leu Thr Leu Ile	
370		375	380
Gln Val Ala Gln Leu Thr Val	Gly	Asp Asp Gly Ser Gly Gly Arg	
385		390	400
Gly Pro Lys Gln Ala Ile Lys	Pro	Val Phe Thr Gln Pro Ala Ala Ala	
405		410	415
Gln Gln Pro Gln Val Ala Pro	Ile	Ala Ser Pro Ser Gln Ser Met Asn	
420		425	430
Ala Ala Thr Pro Val Ala Pro	Gln	Ala Val Ser Gln Gln Val Gly Ser	
435		440	445
Ser Pro Ala Val Asn Val Arg	Pro	Gly Gly Ala Ile Ser Pro Ser Gly	
450		455	460
Ala Met Pro Asp Ala Val Arg	Met	Ala Gln Phe Lys Glu Glu Lys Lys	
465		470	480
Ile Pro Val Met Lys Lys Ser	Ser	Leu Gly Leu Ser Ile Lys His Pro	
485		490	495
Gln Lys Glu Glu Gln Arg Gly	Ala	Gly Val Val His Thr Ala Gln	
500		505	510
Met Ser Thr Gln Gln Ile Glu	Glu	Asp Phe Ile Phe Asn Glu Arg Asp	
515		520	525
Leu Asn Tyr Tyr Trp Gln Glu	Tyr	Ala Gly Arg Met Pro Ile Glu Gln	
530		535	540

Lys Ala Ile Ala Met Arg Met Gln Asn Met Arg Leu Ser Leu Leu Asn  
 545 550 555 560  
 Asp Thr Thr Phe Glu Val Val Val Asp Asn Glu Ile Val Ala Lys Asp  
 565 570 575  
 Phe Thr Ala Leu Ile Pro Gly Ile Gln Ala Tyr Leu Arg Gly Ser Leu  
 580 585 590  
 Lys Asn Arg Lys Val Thr Met Thr Val Arg Val Ser Glu Ala Thr Glu  
 595 600 605  
 Asn Val Arg Ala Val Ser Arg Val Glu Lys Phe Gln Met Met Ala Gln  
 610 615 620  
 Lys Asn Asn Ala Leu Leu Gln Leu Lys Glu Glu Phe Gly Leu Glu Leu  
 625 630 635 640  
 Tyr

<210> 6520

<211> 492

<212> PRT

<213> B.fragilis

<400> 6520

Lys Glu Lys Arg Met Glu Lys Ser Glu Leu Lys Pro Ala Gly Val Phe  
 1 5 10 15  
 His Phe Phe Asn Glu Ile Cys Gln Val Pro Arg Pro Ser Lys Lys Glu  
 20 25 30  
 Glu Lys Met Ile Ala Tyr Leu Lys Ala Phe Gly Glu Lys His Asn Leu  
 35 40 45  
 Glu Thr Lys Val Asp Glu Ala Gly Asn Val Leu Ile Lys Lys Pro Ala  
 50 55 60  
 Thr Pro Gly Lys Glu Asn Leu Lys Thr Val Ile Leu Gln Ser His Val  
 65 70 75 80  
 Asp Met Val Cys Glu Lys Asn Asn Asp Thr Asp His Asp Phe Leu Thr  
 85 90 95  
 Asp Pro Ile Glu Thr Glu Ile Asp Gly Glu Trp Met Lys Ala Lys Gly  
 100 105 110  
 Thr Thr Leu Gly Ala Asp Asn Gly Ile Gly Val Ala Thr Glu Leu Ala  
 115 120 125  
 Ile Leu Ala Asp Asp Ser Ile Glu His Gly Pro Ile Glu Cys Leu Phe  
 130 135 140  
 Thr Val Asp Glu Glu Thr Gly Leu Thr Gly Ala Phe Ala Leu Lys Glu  
 145 150 155 160  
 Gly Phe Met Ser Gly Glu Ile Leu Leu Asn Leu Asp Ser Glu Asp Glu  
 165 170 175  
 Gly Glu Leu Tyr Ile Gly Cys Ala Gly Gly Ile Asp Thr Val Ala Glu  
 180 185 190  
 Phe Gln Tyr Glu Asn Glu Met Thr Pro Ile Ser His Leu Cys Phe Arg  
 195 200 205  
 Ile Thr Val Lys Gly Leu Lys Gly Gly His Ser Gly Gly Asp Ile His  
 210 215 220  
 Leu Gly Arg Gly Asn Ala Asn Lys Ile Leu Asn Arg Phe Leu Tyr Gln  
 225 230 235 240  
 Met Met Thr Thr Tyr Gln Glu Asp Phe His Leu Tyr Glu Phe Asn Gly  
 245 250 255  
 Gly Asn Leu Arg Asn Ala Ile Pro Arg Glu Ala Ser Ala Val Phe Ser  
 260 265 270  
 Val Pro Glu His Tyr Lys His Asp Ile Arg Thr Ala Leu Asn Val Phe  
 275 280 285  
 Thr Ala Glu Ile Glu Asn Glu Leu His Arg Val Glu Pro Asp Leu Asn  
 290 295 300

Ile Leu Leu Glu Thr Glu Pro His Arg Asp Trp Ser Ile Asp Ser Ser  
 305 310 315 320  
 Thr Ser Tyr Arg Leu Ile Thr Ser Leu Tyr Gly Cys Pro His Gly Val  
 325 330 335  
 Tyr Ala Met Ser Gln Asp Ile Pro Gly Leu Val Glu Thr Ser Thr Asn  
 340 345 350  
 Leu Ala Ser Val Lys Met Lys Pro Glu Asn Thr Ile Arg Ile Glu Thr  
 355 360 365  
 Ser Gln Arg Ser Ser Ile Leu Ser Ser Arg Asp Asp Ile Ala Thr Thr  
 370 375 380  
 Val Arg Ala Val Phe Arg Leu Ala Gly Ala Gln Val Asn Trp Gly Glu  
 385 390 395 400  
 Gly Tyr Pro Gly Trp Lys Pro Asn Pro Asp Ser Glu Ile Leu Lys Val  
 405 410 415  
 Ala Glu Glu Ser Tyr Lys Arg Leu Phe Gly Val Asp Ala Lys Val Lys  
 420 425 430  
 Ala Ile His Ala Gly Leu Glu Cys Gly Leu Phe Leu Asp Lys Tyr Pro  
 435 440 445  
 Ala Leu Asp Met Ile Ser Phe Gly Pro Thr Leu Thr Gly Val His Ser  
 450 455 460  
 Pro Asp Glu Arg Met His Ile Pro Ser Val Asp Lys Phe Trp Lys His  
 465 470 475 480  
 Leu Leu Asp Val Leu Ala His Ile Pro Ala Lys Asn  
 485 490

&lt;210&gt; 6521

&lt;211&gt; 222

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6521

Thr Leu Val Gly Met Lys Phe Phe Ile Asp Thr Ala Asn Leu Asp Gln  
 1 5 10 15  
 Ile Arg Glu Ala His Asp Leu Gly Val Leu Asp Gly Val Thr Thr Asn  
 20 25 30  
 Pro Ser Leu Met Ala Lys Glu Gly Ile Lys Gly Val Glu Asn Gln Arg  
 35 40 45  
 Arg His Tyr Val Glu Ile Cys Asn Ile Val Gln Gly Asp Val Ser Ala  
 50 55 60  
 Glu Val Ile Ala Thr Asp Tyr Glu Gly Met Val Arg Glu Gly Lys Glu  
 65 70 75 80  
 Leu Ala Ala Leu Asn Pro His Ile Val Val Lys Val Pro Cys Ile Ala  
 85 90 95  
 Asp Gly Ile Lys Ala Ile Lys His Phe Ser Gly Lys Gly Ile Arg Thr  
 100 105 110  
 Asn Cys Thr Leu Val Phe Ser Thr Gly Gln Ala Leu Leu Ala Ala Lys  
 115 120 125  
 Ala Gly Ala Thr Tyr Val Ser Pro Phe Val Gly Arg Leu Asp Asp Ile  
 130 135 140  
 Cys Glu Asp Gly Val Gly Leu Val Ala Asn Ile Val Arg Met Tyr Arg  
 145 150 155 160  
 Phe Tyr Asn Tyr Pro Thr Gln Val Leu Ala Ala Ser Ile Arg Ser Ser  
 165 170 175  
 Lys His Ile Met Glu Cys Val Glu Ala Gly Ala Asp Val Ala Thr Cys  
 180 185 190  
 Pro Leu Ser Ala Ile Lys Gly Leu Met Asn His Pro Leu Thr Asp Ala  
 195 200 205  
 Gly Leu Lys Lys Phe Leu Glu Asp Tyr Lys Lys Val Asn Glu  
 210 215 220

<210> 6522  
<211> 332  
<212> PRT  
<213> B.fragilis

<400> 6522

Ser	Lys	Asn	Ile	Ile	Asp	Met	Lys	Ala	Ile	Cys	Asn	Lys	Gly	Ile	Cys
1						5				10					15
Val	Phe	Leu	Phe	Leu	Ser	Leu	Leu	Met	Ser	Ala	Thr	Met	Val	Asn	Ala
								20			25				30
Gln	Arg	Val	Ile	Thr	Ala	Ser	Gly	Lys	Tyr	Ile	Thr	Lys	Asn	Ile	Lys
							35			40		45			
Val	Thr	Arg	Phe	Asp	Gln	Ile	Tyr	Leu	Lys	Gly	Ser	Pro	Thr	Ile	Glu
						50			55		60				
Tyr	Thr	Gln	Ser	Pro	Gly	Ala	Ser	Glu	Val	Gln	Ile	Ala	Gly	Ser	Asp
						65		70		75					80
Asn	Leu	Val	Asp	Leu	Val	Glu	Cys	Arg	Val	Glu	Gly	Ser	Thr	Leu	Ile
						85			90						95
Val	Asn	Met	Lys	Ser	Arg	Thr	Asn	Ile	Ser	Tyr	Gly	Lys	Glu	Gly	Arg
						100			105						110
Leu	Lys	Ile	Leu	Val	Ser	Ser	Pro	Met	Leu	Lys	Ser	Ala	Ser	Leu	Gln
						115			120						125
Gly	Ser	Gly	Asp	Ile	His	Leu	Gly	Ser	Leu	Lys	Val	Glu	Gly	Leu	Asp
						130			135						140
Val	Ser	Leu	Ile	Gly	Ser	Gly	Asp	Ile	Val	Ala	Glu	Asn	Ile	Thr	Cys
						145			150						160
Asn	Gly	Asp	Phe	Ser	Ala	Leu	Leu	Gln	Gly	Ser	Gly	Asp	Ile	Asp	Val
						165			170						175
Lys	Gly	Gln	Leu	Arg	Ala	Lys	Ser	Val	Asn	Leu	Asn	Leu	Gln	Gly	Ser
						180			185						190
Gly	Asp	Leu	Lys	Val	Ala	Gly	Val	Thr	Gly	Ser	Glu	Ile	Ser	Ala	Met
						195			200						205
Leu	Gln	Gly	Ser	Gly	Asp	Leu	Lys	Val	Gly	Ser	Thr	Asn	Ile	Thr	Ser
						210			215						220
Thr	Val	Thr	Ala	Lys	Leu	Ser	Gly	Asp	Met	Asp	Val	Leu	Asp		
						225			230						240
Ile	Arg	Ala	Asn	Ser	Val	Ser	Gly	Gln	Leu	Asp	Gly	Ser	Gly	Asp	Met
						245			250						255
Thr	Leu	Ser	Gly	Ser	Ala	Cys	Asn	Ala	Thr	Leu	Val	Leu	Asn	Arg	Ser
						260			265						270
Gly	Glu	Leu	Ser	Ala	Arg	Lys	Leu	Asp	Ala	Glu	Asn	Val	Thr	Ala	His
						275			280						285
Val	Asn	Gly	Ser	Gly	Glu	Ile	Ser	Cys	Thr	Ala	Thr	Lys	Thr	Leu	Glu
						290			295						300
Thr	Asn	Ile	Gln	Gly	Ser	Gly	Glu	Ile	Ser	Tyr	Lys	Gly	Asn	Pro	Ser
						305			310						320
Ile	Arg	Ser	Thr	Gly	Lys	Asn	His	Leu	Asn	Arg	Leu				
						325			330						

<210> 6523  
<211> 502  
<212> PRT  
<213> B.fragilis

<400> 6523

Leu	Thr	Val	Leu	Lys	Trp	Ser	Gly	Ser	Phe	Gln	Pro	Arg	Gly	Glu	Asp
1						5			10						15
Tyr	Glu	Gln	Ser	Pro	Tyr	Tyr	Leu	Asn	Leu	Asn	Gly	Lys	Trp	Lys	Phe

20	25	30
His Trp Val Lys Asn Pro Asp Leu Arg Pro Lys Asp Phe Tyr Lys Pro		
35	40	45
Ser Phe Tyr Thr Gly Gly Trp Ala Asp Ile Asn Val Pro Gly Asn Trp		
50	55	60
Glu Arg Gln Gly Tyr Gly Thr Ala Ile Tyr Val Asn Glu Thr Tyr Glu		
65	70	75
Phe Asp Asp Lys Met Phe Asn Phe Lys Lys Asn Pro Pro Leu Val Pro		
85	90	95
Tyr Lys Glu Asn Glu Val Gly Ser Tyr Arg Arg Thr Phe Thr Val Pro		
100	105	110
Ala Gly Trp Lys Gly Arg Arg Val Val Leu Cys Cys Glu Gly Val Ile		
115	120	125
Ser Phe Tyr Tyr Val Trp Val Asn Gly His Phe Leu Gly Tyr Asn Gln		
130	135	140
Gly Ser Lys Thr Ala Ala Glu Trp Asp Ile Thr Asp Gln Leu Glu Glu		
145	150	155
Gly Glu Asn Thr Ile Ala Leu Glu Val Tyr Arg Trp Ser Ser Gly Ser		
165	170	175
Tyr Leu Glu Cys Gln Asp Met Trp Arg Leu Ser Gly Ile Glu Arg Asp		
180	185	190
Val Tyr Leu Tyr Ser Thr Pro Lys Gln Tyr Ile Ala Asp Tyr Lys Val		
195	200	205
Asn Ala Thr Leu Glu Lys Glu Arg Tyr Lys Asp Gly Ile Phe Gly Leu		
210	215	220
Asp Val Thr Val Gly Gly Pro Ala Asp Gly Val Ala Ser Val Ser Tyr		
225	230	235
Thr Leu Asn Asp Pro Leu Gly Arg Pro Val Leu Ser Gly Glu Met Pro		
245	250	255
Val Lys Ser Arg Gly Leu Ser Asn Phe Ile Thr Phe Gly Glu Gln Arg		
260	265	270
Leu Lys Asp Val Lys Arg Trp Asn Ala Glu His Pro Asn Leu Tyr Thr		
275	280	285
Leu Val Leu Glu Leu Lys Asn Ala Gly Gly Gln Val Thr Glu Val Thr		
290	295	300
Gly Cys Glu Val Gly Phe Arg Thr Ser Glu Ile Lys Asp Gly Arg Phe		
305	310	315
Cys Ile Asn Gly Val Pro Val Leu Val Lys Gly Thr Asn Arg His Glu		
325	330	335
His Ser Gln Leu Gly Arg Thr Val Ser Lys Glu Leu Met Glu Gln Asp		
340	345	350
Ile Arg Leu Met Lys Leu Tyr Asn Ile Asn Thr Val Arg Asn Ser His		
355	360	365
Tyr Pro Thr Asp Pro Tyr Trp Tyr Arg Leu Cys Asp Arg Tyr Gly Leu		
370	375	380
Tyr Met Ile Asp Glu Ala Asn Ile Glu Ser His Gly Met Gly Tyr Gly		
385	390	395
Pro Ala Ser Leu Ala Lys Asp Ser Thr Trp Leu Thr Ala His Met Asp		
405	410	415
Arg Thr His Arg Met Tyr Glu Arg Ser Lys Asn His Pro Ala Ile Val		
420	425	430
Ile Trp Ser Leu Gly Asn Glu Ala Arg Lys Arg Asn Gln Phe Arg Ala		
435	440	445
Tyr Leu Arg Leu Ala Glu Ile Gly Arg Glu Lys Pro Ser Arg Pro Val		
450	455	460
Arg Thr Cys Arg Ala Glu Leu Gln Tyr Arg Tyr Leu Leu Ser Asn Val		
465	470	475
Ser Gln Cys Arg Arg Asn Gln Gly Leu Ser Gly Pro Glu Arg Tyr Leu		
485	490	495

Pro Ser Val His Ser Leu  
500

<210> 6524

<211> 117

<212> PRT

<213> B.fragilis

<400> 6524

Arg	Gly	Arg	Met	Lys	Gln	Leu	Ile	Pro	Ala	Leu	Phe	Ala	Val	Gly	Ala
1			5							10				15	
Val	Met	Ala	Leu	Ile	Gly	Ala	Ala	Val	Phe	Ile	Thr	Gly	Trp	Val	Tyr
			20						25				30		
Ala	Pro	Tyr	Ile	Tyr	Thr	Ile	Gly	Ala	Gly	Phe	Val	Ala	Leu	Ala	Gln
			35				40				45				
Val	Asn	Thr	Pro	Leu	Arg	Ala	Lys	Ser	Lys	Thr	Leu	Arg	Arg	Leu	Arg
			50				55			60					
Ile	Gln	Gln	Ile	Phe	Gly	Ala	Leu	Ala	Leu	Ile	Leu	Thr	Gly	Ala	Phe
			65				70			75			80		
Met	Phe	Thr	Thr	Arg	Gly	Asn	Glu	Trp	Ile	Ala	Cys	Leu	Thr	Ile	Ala
			85				90			95					
Ala	Ile	Leu	Glu	Leu	Tyr	Thr	Ala	Phe	Arg	Ile	Pro	Gln	Glu	Glu	Glu
			100				105				110				
Lys	Glu	Leu	Ser	Lys											
			115												

<210> 6525

<211> 355

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (77)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 6525

Ala	Phe	Arg	Thr	Trp	Trp	Pro	Phe	Ile	Arg	Met	Lys	Arg	Glu	Ser	Val
1				5				10				15			
Leu	Phe	Gln	Ala	Ala	Arg	Lys	His	His	Leu	Asn	Leu	Leu	Phe	Pro	Leu
				20				25				30			
Phe	Arg	Ala	Asn	Thr	Ser	Ala	Ser	Tyr	Pro	Val	Ser	Arg	Phe	Ile	Ser
				35			40				45				
Arg	Pro	Ile	Thr	Val	Leu	Ser	Lys	Gly	Phe	Ala	Lys	Gly	Phe	Phe	Cys
				50			55				60				
Ile	Lys	Lys	Glu	Thr	Val	Asp	Lys	Ile	Gln	Gln	Phe	Xaa	Phe	Asp	Lys
				65			70			75			80		
Trp	Ala	Ile	Glu	Glu	Arg	Arg	Tyr	His	Gln	Leu	Leu	Ser	Ile	Leu	Leu
					85				90			95			
Pro	Gly	Leu	Lys	Asn	Gly	Asn	Leu	Ala	Ser	Val	Glu	Gln	Tyr	Leu	Gly
					100			105			110				
Ala	Lys	His	Ile	Glu	Ala	Tyr	Ala	Ala	Val	Pro	Tyr	Val	Ala	Asp	Arg
					115			120			125				
Trp	Glu	Leu	Asp	Asp	Ala	Ser	Leu	Pro	Gln	Gly	Ala	Val	Val	Val	Leu
					130			135			140				
Thr	Cys	Glu	Gly	Val	Leu	Tyr	Ser	Trp	Glu	Thr	Tyr	Arg	Leu	Glu	Arg
				145			150			155			160		
Tyr	Ile	Ser	Ala	Ala	Ile	Ala	Asn	Asp	Arg	Ile	Ser	Gly	Val	Val	Leu
					165			170			175				

Phe Val Asn Gly Pro Gly Gly Met Ile Thr Arg Val Asp Val Leu Glu  
     180                  185                  190  
 Lys Leu Ile Arg Gln Ser Pro Lys Pro Ile Val Ala Tyr Ile Thr Gly  
     195                  200                  205  
 Val Cys Ala Ser Ala His Phe Trp Phe Val Ser Ala Cys Ala Arg Arg  
     210                  215                  220  
 Phe Val Ser Ser Pro Met Asp Glu Ile Gly Ser Cys Gly Val Val Tyr  
     225                  230                  235                  240  
 Thr Phe Gln Ser Phe Lys Glu Tyr Tyr Ala Gln Met Gly Ile Glu Ile  
     245                  250                  255  
 Glu Asp Ile Tyr Pro Asp Ser Ala Asp Leu Lys Asn Arg Ala Tyr Arg  
     260                  265                  270  
 Asp Lys Glu Glu Lys Gln Asp Asp Thr Leu Ile Lys Glu Asn Leu Ser  
     275                  280                  285  
 Phe Tyr His His Leu Phe Ala Gln Thr Ile Ala Arg Asn Leu Gly Val  
     290                  295                  300  
 Lys Tyr Asp Ala Gln Asp Pro Leu Phe Arg Gly Gln Thr Phe Phe Ala  
     305                  310                  315                  320  
 Asp Thr Ala Leu Ala Lys Gly Tyr Val Asp Ala Tyr Gly Ser Leu Glu  
     325                  330                  335  
 Asp Ala Ile Leu Trp Val Ser Ala Gln Lys Thr Val Lys Arg Ala Asn  
     340                  345                  350

Lys Met Ile  
     355

<210> 6526

<211> 157

<212> PRT

<213> B.fragilis

<400> 6526

Arg Lys Asn Ala Glu Tyr Leu Lys Ile Asn Lys Leu Tyr Asn Met Lys  
     1                  5                  10                  15  
 Thr Ile Lys Arg Pro Tyr Thr Pro Val Cys Asp Leu Glu Leu Val Pro  
     20                  25                  30  
 Val Glu Cys Ile Ser Asp Phe Ala Val Ile Leu Pro Arg Ala Phe Ile  
     35                  40                  45  
 Ala Val Arg Asp Gly Ser Tyr Arg Ile Pro Val Ile Pro Gly Ser Phe  
     50                  55                  60  
 Thr Pro Gly Val Glu Ser Glu Gln Ala Asp Ser Gly Thr Ile Tyr Tyr  
     65                  70                  75                  80  
 Asn Val Gly His Thr Phe Glu Val Ala Leu Thr Gly Pro Asp Ser Gln  
     85                  90                  95  
 Glu Leu Leu Ser Ala Met Ser Leu Gln Asp Leu Val Ala Ile Tyr Thr  
     100                  105                  110  
 Asn Glu Ala Gly Glu Arg Ile Val Ser Gly Ser Pro Gln Thr Pro Leu  
     115                  120                  125  
 Lys Leu Thr Phe Ser Ile Val Ser Gly Lys Tyr Gln Cys Lys Leu Ser  
     130                  135                  140  
 Gly Lys Gln Val Tyr Ile Glu Ala Tyr His Ser Pro Phe  
     145                  150                  155

<210> 6527

<211> 274

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

&lt;222&gt; (251)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 6527

Gln	Asp	Asp	Leu	Ile	Leu	Thr	Ile	Lys	Val	Asn	Leu	Phe	Met	Lys	Asn
1				5				10					15		
Tyr	Phe	Ala	Ser	Phe	Ile	Pro	Ala	Val	Lys	Ala	Ile	Leu	Gly	Ile	Glu
				20				25					30		
Ala	Trp	Ser	Lys	Asp	Ala	Asp	Lys	Lys	Asp	Ala	Leu	Leu	Glu	Glu	Gln
			35				40					45			
Lys	Gln	Lys	Leu	Lys	Ala	Leu	Asn	Phe	Asn	Asp	Thr	Phe	Ile	Asn	Gly
			50				55				60				
Phe	Cys	Glu	Ala	Leu	Lys	Asp	Gly	Phe	Pro	Glu	Asp	Ser	Ser	Arg	Lys
	65				70				75					80	
Asp	Gly	Glu	Ser	Gly	Thr	Lys	Gly	Ser	Gly	Pro	Asp	Pro	Asn	Thr	Ser
			85				90						95		
Asn	Ala	Val	Ile	Gln	Gly	Leu	Leu	Ala	Asp	Met	Thr	Ala	Lys	Leu	Val
			100				105					110			
Thr	Ala	Gln	Glu	Glu	Ile	Ala	Val	Leu	Thr	Lys	Glu	Lys	Gly	Glu	Leu
			115				120				125				
Ser	Gln	Glu	Val	Ser	Ala	Lys	Gln	Thr	Glu	Ile	Thr	Gly	Leu	Gln	Thr
			130				135				140				
Lys	Ile	Gln	Thr	Leu	Ser	Gly	Leu	Ala	Glu	Gln	Asp	Gly	Gly	Lys	Gly
	145				150				155				160		
Phe	Gln	His	Ala	Arg	Leu	Glu	Pro	Asp	Ala	Lys	Asp	Ile	Val	Met	Asn
				165				170				175			
Trp	Asp	Asp	Glu	Lys	Gln	Leu	Gly	Gly	Leu	Ser	Gly	Glu	Met	Phe	Ala
			180				185				190				
Met	Gly	Pro	Pro	Tyr	Asn	Gln	Arg	Leu	Arg	Ala	Lys	Met	Leu	Tyr	Arg
			195				200				205				
Lys	Gly	Leu	Thr	Arg	Gln	Val	Pro	Thr	Ala	Ser	Ser	Ile	Asp	Tyr	Ser
			210				215				220				
Arg	Leu	Lys	Glu	Asp	Leu	Gly	Ala	Phe	Tyr	Arg	Ile	Pro	Trp	Gln	Glu
	225				230				235				240		
Arg	Leu	Gln	Ser	Phe	Leu	Thr	Leu	Leu	Pro	Xaa	Ile	Glu	Ser	Ile	Phe
				245				250				255			
Pro	Ala	Glu	Phe	Gly	Ile	Ser	Gly	Pro	Gly	Arg	Ala	Tyr	Lys	His	Leu
			260				265				270				
Gly	Trp														

&lt;210&gt; 6528

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6528

Lys	Lys	His	Gln	Leu	Met	Ile	Thr	Thr	Lys	Ile	Thr	Val	Glu	Pro	His
1				5				10				15			
Leu	Ala	Gln	Tyr	Cys	Tyr	Ala	Lys	Tyr	Ser	Ser	Asp	Pro	Glu	Gly	Ser
				20				25				30			
Met	Pro	Val	Arg	Phe	Ala	Asp	His	Leu	Asp	Val	Tyr	His	Leu	Val	Tyr
			35				40				45				
Asn	Leu	Leu	Glu	Lys	Arg	Pro	Val	Asn	Cys	Pro	Arg	Asp	Asn	Gly	Asn
			50				55				60				
Leu	Glu	Ile	Val	Leu	Pro	Asp	Arg	Arg	Gln	Gly	Asp	Val	Pro	Gly	Gly
	65				70				75			80			
Lys	Ser	Pro	Glu	Arg	Phe	Asn	Tyr	Leu	Gly	Gln	Arg	Ser	Gln	Gly	Ile
			85				90				95				

Ile Asn Lys Lys Leu Lys Leu Met Met Arg Ala Glu Leu His Asp Phe  
 100 105 110  
 Ile Asp Glu Asn Lys His Arg Phe Gly Ile Asp Gln Leu Gln Ser Val  
 115 120 125  
 His Cys Phe Met Lys Lys Tyr Cys Ile Asp Ser Leu Ser Glu Asp Ala  
 130 135 140  
 Leu Leu Lys Asp Tyr Gln Arg Trp Arg Asp Arg Val Arg Arg Ser Ser  
 145 150 155 160  
 Leu Lys Arg Pro Tyr Lys Lys Lys  
 165

&lt;210&gt; 6529

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6529

Lys Lys Met Glu Val Glu Leu Val Lys Thr Thr Leu His Ala Val Leu  
 1 5 10 15  
 Ser Pro Ser Gln Leu Gln Lys Pro Cys Val Arg Lys Lys Glu Leu Thr  
 20 25 30  
 Pro Leu Gln Ile Ser Leu Lys Thr Gly Ser Thr Ala Ser Gln Leu Val  
 35 40 45  
 Asp Glu Trp Gly Gly Thr Ile Ala Gln Leu Asn Met Gly Ala Pro Leu  
 50 55 60  
 Tyr Asp Val Ala Ala Asn Gly Glu Ile Pro Thr Leu Ala Asp Val Gly  
 65 70 75 80  
 Val Val Phe Gly Asn Ser Thr Ser Val Arg Ile Ile Thr Ser His Leu  
 85 90 95  
 Glu Ser Val Leu Lys Tyr Ala Gly Val Glu Leu Ser Arg Glu Gln Met  
 100 105 110  
 Ala Glu Thr Ala Leu Ala Ile Leu Ser Gly Tyr Trp Phe Leu Asn Leu  
 115 120 125  
 Ala Glu Leu Cys Ile Phe Phe Thr Arg Leu Lys Asn Gly Ser Cys Gly  
 130 135 140  
 Gln Leu Val Trp Gly Lys Ser Leu Asn Asn Gln Ala Val Met Val Ala  
 145 150 155 160  
 Leu Ser Asp Phe Cys Lys Glu Arg Arg Glu Val Ile Ile Arg Lys Glu  
 165 170 175  
 Thr Glu Arg Met Gly Pro Gly Leu Trp Lys Lys Ala Phe Pro Glu Arg  
 180 185 190  
 Arg Ile Leu Pro Pro Val Leu Cys Trp Ala Tyr Arg Val  
 195 200 205

&lt;210&gt; 6530

&lt;211&gt; 293

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6530

Lys Ser Arg Arg Asn Leu Pro Arg Leu Cys Val Arg Leu Arg Thr Pro  
 1 5 10 15  
 Tyr Leu Ile Cys Leu Leu Cys Asn Ile Tyr Arg Asp Lys Gly Tyr Tyr  
 20 25 30  
 Ile Glu Trp Asp Glu Asp Leu Pro Phe Val Val Ala Asp Thr Ile Gly  
 35 40 45  
 Thr Thr Glu Gly Ala Val Glu Glu Val Val Lys Lys Ala Val Gln Val  
 50 55 60  
 Gly Phe Phe Asp Lys Ser Leu Phe Asp Gln Tyr Arg Ile Leu Thr Ser

65	70	75	80
Asn Gly Ile Gln Asn Arg Phe Lys Ser	Ala Val Ser Arg Arg Glu Gly		
85	90		95
Phe Glu Tyr Ile Pro Glu Tyr Leu Val Ser Val Cys Asn Asn Pro Ile			
100	105		110
Gln Ser Asn Phe Cys Ile Gln Lys Pro Ser Ser Thr Glu Phe Leu Tyr			
115	120		125
Ala Glu Thr Gln Pro Asn Arg Val Ser Ala Cys Lys Ser Thr Gln Ser			
130	135		140
Lys Val Lys Glu Arg Ile Ser Pro Pro Pro His Ala Arg Glu Gly Gly			
145	150		160
Ile Ser Gly Ile Arg Leu Phe Ser Asp Lys Ser Leu Thr Glu Cys Tyr			
165	170		175
Gly Glu Leu Lys Ala Asn Ile Pro Trp Met Glu Gln Phe Cys Met Asn			
180	185		190
Ile Arg Leu Asp Tyr Pro Asp Phe Thr Pro Glu Leu Phe Tyr Gly Phe			
195	200		205
Leu Asp Arg Phe Phe Arg Lys Leu Gln Asn Glu Gly Glu Ile Val Lys			
210	215		220
Ser Pro Lys Asp Ala Met Ser His Phe Ala Asn Trp Leu Asn Ile Glu			
225	230		240
Leu Glu Lys Leu Lys Lys Asp Gly Ser Arg Thr Ser Lys Asn His Pro			
245	250		255
Ala Cys Gly Ser Glu Pro Val Ser Val Thr Glu Thr Leu Cys Pro Lys			
260	265		270
Glu Gly Ala Asp Ala Ser Pro Asp Leu Val Lys Asn Trp Ile Asp Gly			
275	280		285
Leu Ser Ile Gly Gly			
290			

<210> 6531  
<211> 268  
<212> PRT  
<213> B.fragilis

```

<400> 6531
Lys Asn Asn Ile Pro Met Ile Val Ala Trp Phe Ser Cys Gly Val Thr
1 5 10 15
Ser Ala Val Ala Cys Lys Ile Ala Leu Ser Leu Tyr Asp Asp Val Gln
20 25 30
Leu Tyr Tyr Ile Glu Thr Gly Ser Gly His Pro Asp Asn Ala Arg Phe
35 40 45
Leu Ser Asp Cys Glu Arg Trp Tyr Asp Gln Pro Ile His Ile Ile Arg
50 55 60
Ser Asp Lys Tyr Thr Cys Val Ala Asp Val Leu Arg Lys Gly Phe Ile
65 70 75 80
Asn Gly Ala His Gly Ala Ala Cys Thr Leu Glu Leu Lys Lys Lys Val
85 90 95
Arg Tyr Lys Leu Glu Lys Glu Leu Gly Ser Trp Asp Gly Gln Val Trp
100 105 110
Gly Phe Asp Tyr Glu Pro Lys Glu Ile Asn Arg Ala Ile Arg Leu Lys
115 120 125
Gln Gln Tyr Pro Asp Thr Lys Pro Leu Phe Pro Leu Ile Glu Lys Gln
130 135 140
Ile Thr Lys Pro Asp Ala Met Gly Ile Leu Trp Lys Ala Gly Ile Glu
145 150 155 160
Ile Pro Ala Met Tyr Lys Met Gly Tyr Asn Asn Asn Asn Cys Ile Gly
165 170 175
Cys Val Lys Gly Gly Met Gly Tyr Trp Asn Lys Ile Arg Lys Asp Phe

```

180	185	190
Pro Glu Val Phe Ala Gln Met Ala Gln Ile Glu Arg Asp Val Gly Ala		
195	200	205
Thr Cys Leu Lys Asp Lys Asp Gly Arg Ile Phe Leu Asp Glu Leu Pro		
210	215	220
Thr Trp Arg Gly Asp Pro Val Glu Glu Ile Ile Pro Asp Cys Ser Leu		
225	230	235
Ile Cys Gln Ile Glu Phe Gln Glu Ile Ile Asp Arg Gln Val Lys Arg		
245	250	255
Val Leu Lys Gly Glu Ile Ser Ile Asn Asp Val Ala		
260	265	

&lt;210&gt; 6532

&lt;211&gt; 62

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6532

Thr Met Lys Val Val Ile Tyr Trp Gln Lys Lys Ser Thr Val His His			
1	5	10	15
Arg Arg Arg Ile Arg Asp Arg Phe Arg Leu Pro Asp Gly Met Thr Ile			
20	25	30	
Asn Gly Glu Thr Pro Ala Asp Val Arg Pro Glu Asp Met Lys Glu Leu			
35	40	45	
Gln Thr Leu Glu Met Gly Tyr Ile Lys Leu Arg Asn Lys			
50	55	60	

&lt;210&gt; 6533

&lt;211&gt; 115

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6533

Ser Asp His Ser Gln Arg Asp Arg Ala Asp Gly Pro Gly Ala Val Glu			
1	5	10	15
Lys Gly Phe Ser Arg Thr Glu Asp Phe Ala Ala Gly Ile Val Leu Gly			
20	25	30	
Val Gln Gly Ile Ala Val Lys Arg Glu Arg Ala Lys Ala Asp Phe Asn			
35	40	45	
Ala Phe Leu Glu Phe Phe Pro Cys Leu Pro Ser Gly Tyr Asp Pro Ile			
50	55	60	
Ala Leu Trp Lys Ala Trp Gly Gly Asp Pro Asp Ala Ile Asn Leu Leu			
65	70	75	80
Phe Gly Asn Asn Pro Pro Gly Val Glu Ala Ala Ala Glu Ser Val Gly			
85	90	95	
Arg Tyr Leu Cys Asp Tyr Asn Val Tyr Gln Ala Arg Val Lys Ala Lys			
100	105	110	
Ala Ser Leu			
115			

&lt;210&gt; 6534

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6534

Glu Thr Ser Ser His Phe Asn Thr Phe Ser Gly Asp Ser Thr Val Arg			
1	5	10	15
Pro His Pro Gln Asn Asn Asn Thr Gln Thr Gly Gln Asn Asn Asn Lys			

20	25	30
Pro Phe Ser Leu Phe Leu Ser Asn Lys Leu Lys Glu Ala Leu Ile Ile		
35	40	45
Asn Ile Leu Phe Phe Tyr His His Ile Pro Pro Thr Glu Ser Leu		
50	55	60

&lt;210&gt; 6535

&lt;211&gt; 80

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6535

Ile Lys Gln Ser Ile Lys Val Phe Tyr His Gln Ala Thr Thr Tyr Leu			
1	5	10	15
Asn Lys Ile Thr Asp Cys Asn Asn Ser Phe Pro Ala Tyr Phe Pro Cys			
20	25	30	
Ile Ser Pro Leu Phe His Ile Pro Leu Ser Lys Ile Lys Val Leu Lys			
35	40	45	
His Pro Asp Val Ile Tyr Gln Asn Thr Arg Met Phe Tyr Ile Arg Thr			
50	55	60	
Ser Gly Cys Tyr Leu Leu Lys His Pro Asp Val Phe Arg His Asn Leu			
65	70	75	80

&lt;210&gt; 6536

&lt;211&gt; 64

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6536

Gln Phe Leu Pro Cys Leu Lys Leu Asn Phe Pro Pro Ser Leu Ser Lys			
1	5	10	15
Lys Cys Arg Lys Leu Ala Ser Ser Lys Asn Asn Glu Tyr Ser Gln Phe			
20	25	30	
Lys Lys Gln Arg Tyr Glu Lys Phe Lys Leu Gln Lys Arg Phe Asn Trp			
35	40	45	
Ser Ser Gly Arg Ala Thr Ser Leu Cys Ile Gln Thr Asn Asn Arg Pro			
50	55	60	

&lt;210&gt; 6537

&lt;211&gt; 488

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6537

Val Tyr Asn Thr Lys Gly Asn Lys Ile Gly Phe Tyr Met Ala Thr Thr			
1	5	10	15
Asp Phe Ile Ala Ala Ile Glu Leu Gly Ser Ser Lys Ile Ala Gly Ile			
20	25	30	
Ala Gly Lys Lys Asn Ser Asp Gly Ser Ile Gln Val Leu Ala Tyr Ala			
35	40	45	
Arg Glu Asp Ser Ser Ser Phe Ile Arg Lys Gly Val Ile Tyr Asn Leu			
50	55	60	
Asp Lys Thr Ala Gln Ser Leu Thr Ser Ile Ile Asn Lys Leu Glu Gly			
65	70	75	80
Ala Leu Asn Asn Ser Ile Ala Lys Ile Tyr Val Gly Ile Gly Gly Gln			
85	90	95	
Ser Leu Arg Thr Val Arg Asn Val Val Ser Arg Asp Leu Glu Glu Glu			
100	105	110	
Thr Ile Ile Ser Gln Glu Leu Val Asp Ser Ile Cys Asp Glu Asn Leu			

115	120	125
Glu Ile Pro Leu Ile Asp Met Asp Ile Leu Asp Val Ala Pro Gln Glu		
130	135	140
Tyr Lys Ile Gly Asn Asn Leu Gln Ala Asp Pro Val Gly Val Ala Gly		
145	150	155
Ser His Ile Glu Gly Arg Phe Leu Asn Ile Val Ala Arg Ala Ser Leu		160
165	170	175
Lys Lys Asn Leu Glu Arg Cys Phe Glu Gln Ala Lys Ile Glu Ile Ala		
180	185	190
Asp Leu Leu Ile Ser Pro Leu Val Thr Ala Asp Ala Val Leu Thr Glu		
195	200	205
Ser Glu Arg Arg Ser Gly Cys Ala Leu Ile Asp Phe Gly Ala Asp Thr		
210	215	220
Ser Thr Ile Ser Ile Tyr Lys Asn Asn Ile Leu Arg Phe Leu Thr Val		
225	230	235
Leu Pro Leu Gly Gly Asn Ser Ile Thr His Asp Leu Val Ser Leu Gln		240
245	250	255
Met Glu Glu Glu Ala Glu Arg Leu Lys Ile Arg Tyr Gly Asn Ala		
260	265	270
Phe Tyr Glu Glu Glu Gly Glu Glu Pro Ala Thr Cys Gln Leu Glu		
275	280	285
Asp Gly Asn Arg Thr Ile Glu Leu Gly Lys Leu Asn Asn Ile Ile Glu		
290	295	300
Ala Arg Thr Glu Glu Ile Ile Ala Asn Val Trp Asn Gln Ile Gln Leu		
305	310	315
Ser Gly Tyr Asp Asp Lys Leu Leu Ala Gly Leu Ile Ile Thr Gly Gly		320
325	330	335
Ala Ala Asn Leu Lys Asp Leu Asp Glu Val Leu Arg Lys Arg Ser Lys		
340	345	350
Ile Glu Lys Val Arg Asn Ala Arg Phe Val Arg Asn Thr Ile His Ala		
355	360	365
Asp Glu Asp Val Val Lys Lys Asp Gly Thr Gln Asn Thr Leu Phe Gly		
370	375	380
Leu Leu Ile Ala Gly Asn Glu Asn Cys Cys Leu Leu Glu Thr Pro Ala		
385	390	395
Pro Gln Pro His Ile Gln Pro Gln Pro Gln Pro Glu Pro Val Asn Met		400
405	410	415
Phe Glu Glu Asp Glu Ser Leu Lys Glu Gln Glu Ala Ala Ala Arg Ala		
420	425	430
Ala Lys Lys Lys Glu Glu Glu Lys Lys Arg Lys Glu Glu Glu		
435	440	445
Lys Gln Arg Lys Leu Glu Glu Lys Lys Arg Arg Glu Glu Glu Arg Arg		
450	455	460
Asn Lys Pro Asn Trp Phe Lys Ser Thr Phe Asp Lys Leu Ser Asn Glu		
465	470	475
Ile Phe Ser Asp Glu Asp Met Lys		480
485		

&lt;210&gt; 6538

&lt;211&gt; 489

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6538

Lys His Cys Thr Pro Gly Phe Thr Gly Phe Cys Cys Arg Tyr Cys Lys		
1	5	10
Arg Ser Tyr Lys Ile Ser Ala Thr Ile Met Asn Ile Glu Thr Ile Gln		15
20	25	30
Ser Val Tyr Phe Val Gly Ala Gly Gly Ile Gly Met Ser Ala Leu Val		

35	40	45
Arg Tyr Phe Leu Ser Lys Gly	Lys Val Val Ala	Gly Tyr Asp Arg Thr
50	55	60
Pro Ser Glu Leu Thr Gln His	Leu Ile Glu Glu Gly Ala Gln Ile His	
65	70	75
Tyr Glu Glu Asn Ile Asp Leu Ile Pro	Glu Ala Cys Lys Asp Lys Ala	
85	90	95
Thr Thr Leu Val Val Leu Thr Pro	Ala Val Pro Gln Glu His Ala Glu	
100	105	110
Leu Thr Tyr Phe Arg Asp Asn Gly	Phe Glu Ile Gln Lys Arg Ala Gln	
115	120	125
Val Leu Gly Thr Ile Thr Arg Ser	Ser Lys Gly Leu Cys Val Ala Gly	
130	135	140
Thr His Gly Lys Thr Thr Ser Thr	Met Thr Ala His Leu Phe His	
145	150	155
Gln Ser His Val Gly Cys Thr Ala	Phe Leu Gly Gly Ile Ser Lys Asn	
165	170	175
Tyr Gly Thr Asn Leu Leu Leu Ser	Ser Thr Ser Pro Tyr Thr Val Ile	
180	185	190
Glu Ala Asp Glu Phe Asp Arg Ser	Phe His Trp Leu Ser Pro Tyr Met	
195	200	205
Ser Val Ile Thr Ala Thr Asp Pro	Asp His Leu Asp Ile Tyr Gly Thr	
210	215	220
Glu Gln Ala Tyr Leu Glu Ser Phe	Glu His Tyr Thr Thr Leu Ile Gln	
225	230	235
Pro Gly Gly Ala Leu Ile Ile Arg	Lys Gly Ile Ser Leu Gln Pro Lys	
245	250	255
Val Lys Glu Gly Val Lys Met Tyr	Thr Tyr Ser Arg Asp Glu Gly Asp	
260	265	270
Phe His Ala Glu Asn Ile Arg Ile	Gly Asn Gly Glu Ile Phe Ile Asp	
275	280	285
Phe Val Gly Pro Asp Ile Arg Ile	Asp Asn Ile Gln Leu Gly Val Pro	
290	295	300
Val Ser Ile Asn Ile Glu Asn Gly	Val Ala Ala Met Ala Leu Ala His	
305	310	315
Leu Asn Gly Val Thr Pro Glu Glu	Ile Lys Gln Gly Met Ala Ser Phe	
325	330	335
Arg Gly Val Asp Arg Arg Phe Asp	Phe Lys Ile Lys Asn Asn Arg Ile	
340	345	350
Val Phe Leu Ser Asp Tyr Ala His	His Pro Ser Glu Ile Lys Gln Ser	
355	360	365
Val Met Ser Met Arg Glu Leu	Tyr Arg Asp Lys Lys Ile Thr Ala Val	
370	375	380
Phe Gln Pro His Leu Tyr Thr Arg	Arg Asp Phe Tyr Lys Asp Phe	
385	390	395
Ala Asp Ser Leu Ser Leu Leu Asp	Glu Val Ile Leu Val Asp Ile Tyr	
405	410	415
Pro Ala Arg Glu Gln Pro Ile	Pro Gly Val Ser Ser Arg Leu Ile Tyr	
420	425	430
Asp Asn Leu Arg Pro Gly Ile	Glu Lys Ser Met Cys Lys Lys Glu Glu	
435	440	445
Ile Leu Asp Val Leu Lys Ala	Lys His Ile Glu Val Leu Ile Thr Leu	
450	455	460
Gly Ala Gly Asp Ile Asp Asn Tyr	Val Pro Gly Ile Cys Asp Leu Leu	
465	470	475
Ser Arg Arg Met Val Pro Ser Asp	Asn	
	485	

<211> 254  
<212> PRT  
<213> B.fragilis

<400> 6539

Ile	Val	Lys	Thr	Ile	Asn	Phe	Leu	Met	Ile	Lys	Arg	Ile	Leu	Leu	Thr
1				5				10							15
Ile	Val	Met	Leu	Leu	Leu	Ile	Ala	Tyr	Leu	Val	Ala	Ala	Val	Thr	Val
				20				25							30
Phe	Asn	Asp	Lys	Pro	Ala	His	Gln	Val	Cys	Arg	Asp	Met	Glu	Leu	Val
				35				40							45
Ile	Lys	Asp	Thr	Leu	Asn	Ala	Gly	Phe	Val	Thr	Lys	Asn	Glu	Val	Ala
	50				55						60				
Ala	Ile	Leu	Gln	Lys	Lys	Gly	Ile	Tyr	Pro	Val	Gly	Lys	Met	Asp	
	65				70				75						80
Arg	Val	His	Thr	Lys	Leu	Glu	Lys	Glu	Leu	Asp	Lys	His	Pro	Leu	
				85				90							95
Ile	Asn	Glu	Ala	Gln	Cys	Tyr	Lys	Thr	Pro	Asn	Gly	Lys	Ile	Cys	Val
				100				105							110
Glu	Val	Thr	Gln	Arg	Val	Pro	Ile	Leu	His	Ile	Met	Ser	Ser	Asn	Gly
				115				120							125
Glu	Asn	Tyr	Tyr	Leu	Asp	Asn	Lys	Gly	Lys	Met	Met	Pro	Pro	Asp	Ala
				130				135							140
Lys	Cys	Val	Ala	His	Arg	Ala	Ile	Val	Thr	Gly	Asn	Val	Glu	Lys	Ser
	145				150					155					160
Phe	Ala	Met	Lys	Asp	Leu	Tyr	Lys	Phe	Gly	Val	Phe	Leu	Gln	Asn	Asn
				165					170						175
Pro	Phe	Trp	Glu	Ala	Gln	Ile	Val	Gln	Ile	Asn	Val	Leu	Pro	Gly	Lys
				180				185							190
Glu	Ile	Glu	Leu	Val	Pro	Arg	Val	Gly	Asn	His	Ile	Ile	Tyr	Leu	Gly
				195				200							205
Lys	Leu	Glu	His	Phe	Glu	Asp	Lys	Leu	Lys	Arg	Leu	Lys	Thr	Phe	Tyr
	210				215						220				
Glu	Lys	Gly	Leu	Asn	Gln	Val	Gly	Trp	Asn	Lys	Tyr	Ser	Arg	Ile	Ser
	225				230					235					240
Leu	Glu	Phe	Gly	Asn	Gln	Ile	Ile	Cys	Thr	Lys	Lys	Lys	Gln		
				245					250						

<210> 6540  
<211> 669  
<212> PRT  
<213> B.fragilis

<400> 6540

Leu	Arg	Tyr	Phe	His	Tyr	Ile	Cys	Ser	Val	Ile	Ile	Arg	Asn	Gln	
1				5					10						15
Ile	Met	Ser	Glu	Glu	Gln	Asn	Pro	Thr	Asn	Asn	Gly	Ser	Tyr	Ser	Ala
				20				25							30
Asp	Ser	Ile	Gln	Val	Leu	Glu	Gly	Leu	Glu	Ala	Val	Arg	Lys	Arg	Pro
				35				40							45
Ala	Met	Tyr	Ile	Gly	Asp	Ile	Ser	Val	Lys	Gly	Leu	His	His	Leu	Val
				50				55			60				
Tyr	Glu	Ile	Val	Asp	Asn	Ser	Ile	Asp	Glu	Ala	Leu	Ala	Gly	Tyr	Cys
	65				70				75						80
Asp	His	Ile	Glu	Val	Thr	Ile	Asn	Glu	Asp	Asn	Ser	Ile	Thr	Val	Gln
				85				90							95
Asp	Asn	Gly	Arg	Gly	Ile	Pro	Val	Asp	Phe	His	Glu	Lys	Glu	Gln	Lys
				100				105							110
Ser	Ala	Leu	Glu	Val	Ala	Met	Thr	Val	Leu	His	Ala	Gly	Gly	Lys	Phe

115	120	125
Asp Lys Gly Ser Tyr Lys Val Ser Gly Gly Leu His Gly Val Gly Met		
130	135	140
Ser Cys Val Asn Ala Leu Ser Thr His Met Thr Thr Gln Val Phe Arg		
145	150	155
Asn Gly Lys Ile Tyr Gln Gln Glu Tyr Glu Ile Gly Lys Pro Leu Tyr		
165	170	175
Pro Val Lys Glu Val Gly Ile Ala Asp His Thr Gly Thr Lys Gln Gln		
180	185	190
Phe Trp Pro Asp Asp Ser Ile Phe Thr Glu Thr Ile Tyr Asp Tyr Lys		
195	200	205
Ile Leu Ala Ser Arg Leu Arg Glu Leu Ala Tyr Leu Asn Ala Gly Leu		
210	215	220
Arg Ile Ser Leu Thr Asp Arg Arg Val Val Asn Glu Asp Gly Ser Phe		
225	230	235
Lys His Glu Thr Phe Tyr Ser Glu Glu Gly Leu Arg Glu Phe Val Arg		
245	250	255
Phe Ile Glu Ser Ser Arg Glu His Leu Ile Asn Asp Val Ile Tyr Leu		
260	265	270
Asn Thr Glu Lys Gln Asn Ile Pro Ile Glu Val Ala Ile Met Tyr Asn		
275	280	285
Thr Gly Phe Ser Glu Asn Ile His Ser Tyr Val Asn Asn Ile Asn Thr		
290	295	300
Ile Glu Gly Gly Thr His Leu Ala Gly Phe Arg Arg Ala Leu Thr Arg		
305	310	315
Thr Leu Lys Lys Tyr Ala Glu Asp Ser Lys Met Leu Glu Lys Val Lys		
325	330	335
Val Glu Ile Ser Gly Asp Asp Phe Arg Glu Gly Leu Thr Ala Val Ile		
340	345	350
Ser Val Lys Val Ala Glu Pro Gln Phe Glu Gly Gln Thr Lys Thr Lys		
355	360	365
Leu Gly Asn Asn Glu Val Met Gly Ala Val Asp Gln Ala Val Gly Glu		
370	375	380
Val Leu Asn Tyr Tyr Leu Glu Glu His Pro Lys Glu Ala Lys Ala Ile		
385	390	395
Val Asp Lys Val Ile Leu Ala Ala Thr Ala Arg His Ala Ala Arg Lys		
405	410	415
Ala Arg Glu Met Val Gln Arg Lys Ser Pro Met Ser Gly Gly Leu		
420	425	430
Pro Gly Lys Leu Ala Asp Cys Ser Asp Lys Asp Pro Gln Lys Cys Glu		
435	440	445
Leu Phe Leu Val Glu Gly Asp Ser Ala Gly Gly Thr Ala Lys Gln Gly		
450	455	460
Arg Asn Arg Ala Phe Gln Ala Ile Leu Pro Leu Arg Gly Lys Ile Leu		
465	470	475
Asn Val Glu Lys Ala Met Tyr His Lys Ala Leu Glu Ser Glu Glu Ile		
485	490	495
Arg Asn Ile Tyr Thr Ala Leu Gly Val Thr Ile Gly Thr Glu Glu Asp		
500	505	510
Ser Lys Ala Ala Asn Ile Asp Lys Leu Arg Tyr His Lys Ile Ile Ile		
515	520	525
Met Thr Asp Ala Asp Val Asp Gly Ser His Ile Asp Thr Leu Ile Met		
530	535	540
Thr Phe Phe Arg Tyr Met Pro Gln Ile Ile Gln Asn Gly Tyr Leu		
545	550	555
Tyr Ile Ala Thr Pro Pro Leu Tyr Leu Cys Lys Lys Gly Lys Ile Glu		
565	570	575
Glu Tyr Cys Trp Thr Asp Ala Gln Arg Gln Lys Phe Ile Asp Thr Tyr		
580	585	590

Gly Gly Gly Ser Glu Asn Ala Ile His Thr Gln Arg Tyr Lys Gly Leu  
 595 600 605  
 Gly Glu Met Asn Ala Gln Gln Leu Trp Glu Thr Thr Met Asp Pro Glu  
 610 615 620  
 Asn Arg Met Leu Lys Gln Val Asn Ile Asp Asn Ala Ala Glu Ala Asp  
 625 630 635 640  
 Tyr Ile Phe Ser Met Leu Met Gly Glu Asp Val Gly Pro Arg Arg Glu  
 645 650 655  
 Phe Ile Glu Glu Asn Ala Thr Tyr Ala Asn Ile Asp Ala  
 660 665

&lt;210&gt; 6541

&lt;211&gt; 435

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6541

Lys Leu Lys Ala Val Asp Leu Leu Lys Asn Ile Phe Lys Gly Asp Lys  
 1 5 10 15  
 Val Ile Trp Ile Ile Phe Leu Cys Leu Cys Leu Ile Ser Ile Ile Glu  
 20 25 30  
 Val Phe Ser Ala Ala Ser Thr Leu Thr Tyr Lys Ser Gly Asp His Trp  
 35 40 45  
 Gly Pro Ile Thr Gln His Ser Ile Ile Leu Met Val Gly Ala Val Val  
 50 55 60  
 Val Val Leu Met His Asn Ile Pro Tyr Lys Trp Phe Gln Val Phe Pro  
 65 70 75 80  
 Val Phe Leu Tyr Pro Ile Ser Val Val Leu Leu Ala Phe Val Thr Leu  
 85 90 95  
 Met Gly Val Ile Thr Gly Asp Arg Val Asn Gly Ala Ala Arg Trp Met  
 100 105 110  
 Ser Phe Met Gly Leu Gln Phe Gln Pro Ser Glu Leu Ala Lys Met Ala  
 115 120 125  
 Val Ile Ile Ala Val Ser Phe Ile Leu Ser Lys Lys Gln Asp Asp Glu  
 130 135 140  
 Gly Ala Asn Pro Lys Ala Phe Lys Tyr Ile Met Ile Leu Thr Gly Leu  
 145 150 155 160  
 Val Cys Met Leu Ile Ala Pro Glu Asn Leu Ser Thr Ala Met Leu Leu  
 165 170 175  
 Phe Gly Val Val Leu Met Met Phe Ile Gly Arg Val Ala Phe Lys  
 180 185 190  
 Lys Leu Ala Met Leu Leu Gly Gly Leu Ala Leu Val Gly Cys Leu Gly  
 195 200 205  
 Ala Val Phe Leu Leu Ala Ile Pro Lys Asp Thr Asp Ile Pro Phe Leu  
 210 215 220  
 His Arg Phe Asp Thr Trp Lys Ser Arg Ile Thr Asn Phe Thr Glu Lys  
 225 230 235 240  
 Glu Glu Val Pro Ala Ala Lys Phe Asp Ile Asp Lys Asp Ala Gln Ile  
 245 250 255  
 Ala His Ala Arg Ile Ala Ile Ala Thr Ser Asn Val Ile Gly Lys Ala  
 260 265 270  
 Pro Gly Asn Ser Ile Gln Arg Asp Phe Leu Ser Gln Ala Phe Ser Asp  
 275 280 285  
 Phe Ile Phe Ala Ile Ile Glu Glu Leu Gly Leu Val Gly Gly Ala  
 290 295 300  
 Phe Val Val Ile Leu Tyr Ile Trp Leu Leu Val Arg Thr Gly Arg Ile  
 305 310 315 320  
 Ala Gln Lys Cys Glu Arg Thr Phe Pro Ala Phe Leu Val Met Gly Ile  
 325 330 335

Ala Leu Met Leu Val Ser Gln Ala Ile Leu Asn Met Met Val Ala Val  
           340                 345                 350  
 Gly Leu Phe Pro Val Thr Gly Gln Pro Leu Pro Leu Ile Ser Lys Gly  
           355                 360                 365  
 Gly Thr Ser Thr Leu Ile Asn Cys Ala Tyr Ile Gly Met Ile Leu Ser  
           370                 375                 380  
 Val Ser Arg Tyr Thr Ala Tyr Leu Glu Glu Lys Lys Glu Asn Pro Ala  
           385                 390                 395                 400  
 Pro Leu Leu Thr Gln Ser Glu Gly Asn Glu Ala Ile Ala Ser Glu Ala  
           405                 410                 415  
 Gln Thr Ala Ala Glu Pro Thr Ala Glu Val Leu Asn Ser Asp Ala Lys  
           420                 425                 430  
 Phe Glu Glu  
           435

<210> 6542  
 <211> 135  
 <212> PRT  
 <213> B.fragilis

<400> 6542  
 Lys Arg Leu Ala Arg Val Arg Gly Ile Asp Phe Ile His Asp Ser Lys  
 1                 5                 10                 15  
 Ala Pro Asn Val Asn Ser Cys Trp Tyr Ala Leu Gln Ser Met Thr Thr  
           20                 25                 30  
 Lys Thr Val Leu Ile Leu Gly Gly Lys Asp Lys Gly Asn Asp Tyr Thr  
           35                 40                 45  
 Glu Ile Glu Glu Leu Val Arg Glu Lys Cys Ser Ala Leu Val Tyr Leu  
           50                 55                 60  
 Gly Leu His Asn Glu Lys Leu His Glu Phe Phe Asp Arg Leu Gly Leu  
           65                 70                 75                 80  
 Pro Val Ala Glu Val Gln Thr Gly Met Lys Asp Ala Val Glu Ala Ala  
           85                 90                 95  
 Tyr Lys Leu Ala Lys Lys Gly Glu Thr Val Leu Leu Ser Pro Cys Cys  
           100                 105                 110  
 Ala Ser Phe Asp Leu Phe Lys Ser Tyr Glu Asp Arg Gly Glu Gln Phe  
           115                 120                 125  
 Lys Lys Tyr Val Arg Glu Leu  
           130                 135

<210> 6543  
 <211> 66  
 <212> PRT  
 <213> B.fragilis

<400> 6543  
 Val Gly His Leu His Gln Gln Ala Cys Leu Arg Asn Lys Ile Tyr Asn  
 1                 5                 10                 15  
 Arg Leu Tyr Ile Ile Leu Glu Ala Gly Leu Phe Ser Ser Ala Phe Tyr  
           20                 25                 30  
 Ala Phe Asn Tyr Pro Val Gly Phe Ile Phe Asn Ser Ser Phe Phe Thr  
           35                 40                 45  
 Leu His Ser Ser Leu Thr Gln Ile Phe Ser Leu Tyr Leu Leu Cys Tyr  
           50                 55                 60  
 Tyr Asn  
           65

<210> 6544  
 <211> 181

<212> PRT  
<213> B.fragilis

<400> 6544

Gln	Trp	Ser	Tyr	His	Ile	Leu	Ile	Lys	Val	Lys	Tyr	Arg	Ile	Ile	Asn
1					5				10					15	
Pro	Asp	Leu	Pro	Ile	Val	Asn	Arg	Lys	Ser	Leu	Asn	His	Asn	Asn	Ile
					20				25					30	
Met	Asp	Leu	Phe	Glu	Arg	Val	Ser	Glu	Asp	Ile	Lys	Asn	Ala	Met	Lys
					35				40				45		
Ala	Lys	Asp	Lys	Val	Ala	Leu	Glu	Thr	Leu	Arg	Asn	Val	Lys	Lys	Phe
					50				55				60		
Phe	Leu	Glu	Ala	Lys	Thr	Ala	Pro	Gly	Ala	Asn	Asp	Thr	Leu	Thr	Asp
					65				70				75		80
Ala	Asp	Ala	Leu	Lys	Ile	Val	Gln	Lys	Leu	Val	Lys	Gln	Gly	Lys	Asp
					85				90				95		
Ala	Ala	Glu	Ile	Tyr	Ile	Gly	Gln	Gly	Arg	Gln	Asp	Leu	Ala	Asp	Ala
					100				105				110		
Glu	Leu	Ala	Gln	Val	Gln	Val	Met	Glu	Thr	Tyr	Leu	Pro	Lys	Gln	Met
					115				120				125		
Ser	Ala	Glu	Glu	Leu	Glu	Ala	Ala	Leu	Lys	Glu	Ile	Ile	Ala	Glu	Val
					130				135				140		
Gly	Ala	Thr	Ser	Gly	Lys	Asp	Met	Gly	Lys	Val	Met	Gly	Val	Ala	Ser
					145				150				155		160
Lys	Lys	Leu	Ala	Gly	Leu	Ala	Glu	Gly	Arg	Ala	Ile	Ser	Ala	Lys	Val
					165				170				175		
Lys	Glu	Leu	Leu	Gly											
					180										

<210> 6545

<211> 67  
<212> PRT  
<213> B.fragilis

<400> 6545

Arg	Thr	Ser	Tyr	Thr	Arg	Tyr	Phe	Lys	Ala	Met	Cys	Gln	Ser	Val	Val
1					5				10				15		
Asn	Lys	Asn	Thr	Ala	Arg	Lys	Gly	Lys	Asn	Leu	Gly	Phe	Val	Leu	Lys
					20				25				30		
Pro	Ser	Glu	Arg	Gly	Gly	Glu	Asp	Lys	Ala	Val	Ile	Val	Pro	Leu	Lys
					35				40				45		
Leu	Arg	Thr	Val	Phe	Leu	Thr	Leu	Phe	Val	Lys	Leu	Phe	His	Ala	Glu
					50				55				60		
Thr	Leu	Ser													
		65													

<210> 6546

<211> 343  
<212> PRT  
<213> B.fragilis

<400> 6546

Asp	Arg	Asn	Leu	Gly	Glu	Arg	Thr	Cys	Gly	Glu	Thr	Leu	Tyr	Gly	Thr
1					5				10				15		
Arg	Ser	Ile	Arg	Ser	Ser	Leu	Gly	Arg	Asp	Tyr	Glu	Arg	Arg	Thr	Glu
					20				25				30		
Asn	Asn	Glu	Gln	Arg	Ala	Lys	Met	Lys	Glu	Glu	Glu	Thr	Thr	Tyr	His
					35				40				45		
Val	Pro	Val	Leu	Leu	Lys	Glu	Ser	Val	Asp	Ala	Met	Asn	Ile	Ser	Pro

50	55	60													
Asp	Gly	Thr	Tyr	Val	Asp	Val	Thr	Phe	Gly	Gly	Gly	Gly	His	Ser	Arg
65					70				75						80
Glu	Ile	Leu	Ser	Arg	Leu	Gly	Asp	Gly	Gly	Arg	Leu	Leu	Gly	Phe	Asp
					85				90						95
Gln	Asp	Glu	Asp	Ala	Glu	Arg	Asn	Ile	Val	Asn	Asp	Pro	His	Phe	Thr
					100				105						110
Phe	Val	Arg	Ser	Asn	Phe	Arg	Tyr	Leu	His	Asn	Phe	Leu	Arg	Tyr	His
					115				120						125
Asp	Ile	Gly	Glu	Val	Asp	Ala	Ile	Leu	Ala	Asp	Leu	Gly	Val	Ser	Ser
					130				135						140
His	His	Phe	Asp	Asp	Ser	Glu	Arg	Gly	Phe	Ser	Phe	Arg	Phe	Asp	Gly
145					150				155						160
Lys	Leu	Asp	Met	Arg	Met	Asn	Lys	Arg	Ala	Gly	Ile	Thr	Ala	Ala	Asp
					165				170						175
Val	Val	Asn	Thr	Tyr	Glu	Glu	Glu	Arg	Leu	Ala	Asp	Ile	Phe	Tyr	Leu
					180				185						190
Tyr	Gly	Glu	Leu	Lys	Asn	Ser	Arg	Lys	Leu	Ala	Ser	Val	Ile	Val	Lys
					195				200						205
Ala	Arg	Thr	Gly	Gln	Lys	Ile	Glu	Thr	Ile	Gly	Glu	Phe	Leu	Glu	Ile
					210				215						220
Ile	Lys	Pro	Leu	Phe	Gly	Arg	Glu	Arg	Glu	Lys	Lys	Glu	Leu	Ala	Lys
225					230				235						240
Val	Phe	Gln	Ala	Leu	Arg	Ile	Glu	Val	Asn	Gln	Glu	Met	Glu	Ala	Leu
					245				250						255
Lys	Glu	Met	Leu	Met	Ala	Ala	Thr	Glu	Ala	Leu	Lys	Pro	Gly	Gly	Arg
					260				265						270
Leu	Val	Val	Ile	Thr	Tyr	His	Ser	Leu	Glu	Asp	Arg	Met	Val	Lys	Asn
					275				280						285
Ile	Met	Lys	Thr	Gly	Asn	Val	Glu	Gly	Lys	Ala	Thr	Gln	Asp	Phe	Phe
					290				295						300
Gly	Asn	Leu	Gln	Thr	Pro	Phe	Arg	Leu	Val	Asn	Asn	Lys	Val	Ile	Val
305					310				315						320
Pro	Asp	Glu	Asp	Glu	Ile	Thr	Arg	Asn	Pro	Arg	Ser	Arg	Ser	Ala	Lys
					325				330						335
Leu	Arg	Ile	Ala	Glu	Lys	Lys									
					340										

&lt;210&gt; 6547

&lt;211&gt; 180

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6547

Ser	Gln	Asn	Leu	Ile	Ile	Ile	Asn	Gly	Phe	Gly	Lys	Asp	Thr	Val	Ile
1				5				10						15	
Gly	Pro	Glu	Leu	Leu	Phe	Gly	Ser	Cys	Val	Val	Arg	Tyr	Ser	Tyr	Phe
					20				25						30
Phe	Asn	Gly	Ile	Lys	Arg	Phe	Thr	Asp	Phe	Ile	Phe	Leu	Ile	Asp	
					35				40						45
Phe	Thr	Val	Ala	Glu	Tyr	Leu	Gly	Ser	His	Val	Cys	Arg	Gln	Cys	Ile
					50				55						60
His	Thr	Gly	His	Thr	Tyr	Thr	Val	Lys	Thr	Ser	Gly	Tyr	Phe	Val	Arg
65					70				75						80
Thr	Phe	Ile	Glu	Leu	Thr	Ser	Gly	Met	Gln	Tyr	Gly	His	Gly	Asn	Phe
					85				90						95
Glu	Gly	Arg	Phe	Leu	Leu	Phe	Phe	Val	Glu	Ile	Tyr	Arg	Asn	Thr	Thr
					100				105						110
Ser	Ile	Ile	Leu	Tyr	Gly	Asp	Arg	Val	Val	Phe	Val	Asp	Ser	Tyr	Phe

115	120	125
Asp Met Val Ala Ile Thr Gly Gln Cys Phe Val Asp Arg Val Val Asp		
130	135	140
Asn Phe Ile Tyr Gln Val Met Lys Ser Leu Tyr Ala Asp Val Thr Asn		
145	150	155
Val His Arg Arg Ala Phe Ser Asn Cys Phe Lys Ser Phe Gln Tyr Leu		
165	170	175
Asp Thr Ile Cys		
180		

&lt;210&gt; 6548

&lt;211&gt; 442

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6548

Phe Ile Ile Gln Tyr Asn Met Asp Glu Ile Val Gln Phe Asp Phe Pro		
1	5	10
Thr Asp Ser Pro Lys Ile Ile Lys Val Ile Gly Val Gly Gly Gly		
20	25	30
Gly Asn Ala Val Asn His Met Tyr Arg Glu Gly Ile His Asp Val Thr		
35	40	45
Phe Val Leu Cys Asn Thr Asp Asn Gln Ala Leu Ala Glu Ser Pro Val		
50	55	60
Pro Val Lys Leu Gln Leu Gly Arg Ser Ile Thr Gln Gly Leu Gly Ala		
65	70	75
Gly Asn Arg Pro Glu Arg Ala Arg Asp Ala Ala Glu Glu Ser Ile Glu		
85	90	95
Asp Ile Lys Thr Leu Leu Asn Asp Gly Thr Lys Met Val Phe Ile Thr		
100	105	110
Ala Gly Met Gly Gly Thr Gly Thr Gly Ala Ala Pro Val Ile Ala		
115	120	125
Arg Ile Ala Lys Glu Met Asp Ile Leu Thr Val Gly Ile Val Thr Ile		
130	135	140
Pro Phe Ile Phe Glu Gly Glu Lys Ile Ile Gln Ala Leu Asp Gly		
145	150	155
Val Glu Arg Ile Ala Gln His Val Asp Ala Leu Leu Val Ile Asn Asn		
165	170	175
Glu Arg Leu Arg Glu Ile Tyr Ser Asp Leu Thr Phe Met Asn Ala Phe		
180	185	190
Gly Lys Ala Asp Asp Thr Leu Ser Ile Ala Ala Lys Ser Ile Ala Glu		
195	200	205
Ile Ile Thr Met Arg Gly Thr Val Asn Leu Asp Phe Ala Asp Val Lys		
210	215	220
Thr Ile Leu Lys Asp Gly Gly Val Ala Ile Met Ser Thr Gly Phe Gly		
225	230	235
Glu Gly Glu Asn Arg Val Thr Lys Ala Ile Asp Asp Ala Leu His Ser		
245	250	255
Pro Leu Leu Asn Asn Asn Asp Ile Phe Asn Ala Lys Lys Val Met Leu		
260	265	270
Asn Val Ser Phe Cys Pro Ala Ser Glu Leu Met Met Glu Glu Met Asn		
275	280	285
Glu Val His Glu Phe Met Ser Lys Phe Arg Glu Gly Val Glu Val Ile		
290	295	300
Trp Gly Val Ala Met Asp Asn Ser Leu Asp Thr Lys Val Lys Ile Thr		
305	310	315
Val Leu Ala Thr Gly Phe Gly Val Glu Asp Val Pro Gly Met Asp Asp		
325	330	335
Leu His Glu Lys Arg Ser Gln Glu Glu Glu Arg Gln Leu Gln Leu		

340	345	350
Glu Glu Glu Lys Glu Lys Asn Lys	Glu Arg Ile Arg Lys Ala Tyr Gly	
355	360	365
Glu Ser Ala Ser Gly Ile Gly	Thr Arg Asn Leu Arg Lys Arg Arg His	
370	375	380
Ile Tyr Leu Phe Asn Ala Glu Asp	Leu Asp Asn Asp Asp Ile Ile Ala	
385	390	395
Met Val Glu Asp Ser Pro Thr Tyr	Leu Arg Asp Lys Thr Thr Leu Gly	400
405	410	415
Lys Ile Lys Ala Lys Ala Ala	Leu Glu Glu Glu Ile Ala Thr Glu Glu	
420	425	430
Ala Ile Asp Asp Ser Gly Val Ile	Thr Phe	
435	440	

&lt;210&gt; 6549

&lt;211&gt; 171

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6549

Lys Phe Ile Lys Met Lys Thr Lys Asn Tyr Leu Ser Ile Ile Ser Ile			
1	5	10	15
Leu Phe Phe Ser Phe Leu Phe Val Ser Cys Ser Lys Glu Asp Glu Gly			
20	25	30	
Asp Thr Ile Lys Pro Val Ile Asp Leu Leu Glu Pro Glu Glu Gly Ala			
35	40	45	
Ile Leu Arg Ile Gly Ser Ser His Gly Val His Phe Glu Met Asn Leu			
50	55	60	
His Asp Asn Glu Ala Ile Ala Ser Tyr Lys Ile Asn Ile His Asn Asn			
65	70	75	80
Phe Asp Gly His Ser His Thr Arg Ala Ser Glu Ala Gly Val Thr Lys			
85	90	95	
Pro Phe Thr Phe Glu Arg Thr Tyr Thr Asp Lys Ala Gly Gln Lys Asp			
100	105	110	
Ala His Val His Asn His Asp Ile Lys Ile Pro Ala Asp Ala Thr Pro			
115	120	125	
Gly Asn Tyr His Leu Met Val Tyr Cys Leu Asp Gln Ser Gly Asn Glu			
130	135	140	
Thr Tyr Val Val Arg Asn Ile Val Leu Ser Val Glu Gly Gly Glu Glu			
145	150	155	160
Gly Glu His His His Asp Glu His His His Asp			
165	170		

&lt;210&gt; 6550

&lt;211&gt; 328

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6550

Arg Leu Asp Asn Arg Ser Asp Glu Gln Gln Ala Met Ser Tyr Lys Cys			
1	5	10	15
Leu Pro Leu Ile Thr Lys Tyr Glu Pro Lys Thr Cys Ser Ile Lys Lys			
20	25	30	
Lys Ile Tyr Arg Arg Ile Asp Lys Phe Arg Leu Ile Asn Arg Asn Leu			
35	40	45	
Lys Ile Met Lys Arg Ile Val Val Leu Gly Ala Gly Glu Ser Gly Ala			
50	55	60	
Gly Ala Ala Val Leu Ala Lys Val Lys Gly Phe Asp Thr Phe Val Ser			
65	70	75	80

Asp Met Ser Ala Ile Lys Asp Lys Tyr Lys Thr Leu Leu Asp Gly His  
                   85                  90                  95  
 Gly Ile Ala Trp Glu Glu Gly Arg His Thr Glu Glu Gln Ile Leu Asn  
                   100              105                  110  
 Ala Asp Glu Val Val Lys Ser Pro Gly Ile Pro Asn Asp Ala Pro Leu  
                   115              120                  125  
 Ile Leu Lys Leu Arg Glu Gln Gly Thr Pro Ile Ile Ser Glu Ile Glu  
                   130              135                  140  
 Phe Ala Gly Arg Tyr Thr Asp Ala Lys Met Ile Cys Ile Thr Gly Ser  
                   145              150                  155                  160  
 Asn Gly Lys Thr Thr Thr Ser Leu Ile Tyr His Ile Phe Lys Ser  
                   165              170                  175  
 Ala Gly Leu Asn Val Gly Leu Ala Gly Asn Ile Gly Lys Ser Leu Ala  
                   180              185                  190  
 Leu Gln Val Ala Glu Glu Lys His Asp Tyr Tyr Val Ile Glu Leu Ser  
                   195              200                  205  
 Ser Phe Gln Leu Asp Asn Met Tyr Asn Phe Arg Ala Asp Ile Ala Val  
                   210              215                  220  
 Leu Met Asn Ile Thr Pro Asp His Leu Asp Arg Tyr Asp His Cys Met  
                   225              230                  235                  240  
 Gln Asn Tyr Ile Asn Ala Lys Phe Arg Ile Thr Gln Asn Gln Thr Ser  
                   245              250                  255  
 Glu Asp Ala Phe Ile Phe Trp Asn Asp Asp Pro Ile Ile Lys Arg Glu  
                   260              265                  270  
 Leu Asp Lys His Gly Ile Arg Ala His Leu Tyr Pro Phe Leu Gly Ile  
                   275              280                  285  
 Lys Glu Glu Arg Ser Ile Ala Tyr Val Glu Asp His Glu Val Val Ile  
                   290              295                  300  
 Thr Asp Pro Ile Ala Ile Asn Met Glu Gln Glu Gln Val Ala Leu Thr  
                   305              310                  315                  320  
 Gly Gln His Asn Leu Ile Thr Leu  
                   325

<210> 6551  
 <211> 452  
 <212> PRT  
 <213> B.fragilis

<400> 6551  
 Ile Met Cys Lys Tyr Gln Ile Val Lys Ile Met Met Asp Trp Lys Arg  
 1                  5                  10                  15  
 Leu Ile Ser Ala Lys Arg Phe Gly Met Glu Glu Phe His Glu Glu Arg  
                   20              25                  30  
 Gln Glu Asn Arg Ser Glu Phe Gln Arg Asp Tyr Asp Arg Leu Val Phe  
                   35              40                  45  
 Ser Ala Pro Phe Arg Arg Leu Gln Asn Lys Thr Gln Val Phe Pro Leu  
                   50              55                  60  
 Pro Gly Ser Ile Phe Val His Asn Arg Leu Thr His Ser Leu Glu Val  
                   65              70                  75                  80  
 Ser Cys Val Gly Arg Ser Leu Gly Asn Asp Val Ser Lys Ala Ile Leu  
                   85              90                  95  
 Ala Arg Gln Pro Glu Leu Gln Asp Ser Phe Leu Pro Glu Ile Gly Ser  
                   100              105                  110  
 Ile Val Ser Ala Ala Cys Leu Ala His Asp Leu Gly Asn Pro Pro Phe  
                   115              120                  125  
 Gly His Ser Gly Glu Lys Ala Ile Ser Thr Phe Phe Ser Glu Gly Lys  
                   130              135                  140  
 Gly Val Gln Leu Gln Glu Lys Leu Ser Pro Met Glu Trp Asn Asp Leu  
                   145              150                  155                  160

Thr His Phe Glu Gly Asn Ala Asn Ala Phe Arg Leu Leu Thr His Gln  
           165                  170                  175  
 Phe Glu Gly Arg Arg Lys Gly Gly Phe Val Leu Thr Tyr Ser Thr Leu  
           180                  185                  190  
 Ala Ser Ile Val Lys Tyr Pro Phe Ser Ser Ser Leu Ala Gly Asn Lys  
           195                  200                  205  
 Ser Lys Phe Gly Phe Phe Thr Thr Glu Glu Glu Gly Phe Arg Arg Ile  
           210                  215                  220  
 Ala Thr Glu Leu Gly Leu Ile Gln Leu Ser Asp Arg Pro Leu Lys Tyr  
           225                  230                  235                  240  
 Ala Arg His Pro Leu Val Tyr Leu Val Glu Ala Ala Asp Asp Ile Cys  
           245                  250                  255  
 Tyr Gln Met Met Asp Ile Glu Asp Ala His Lys Leu Lys Ile Leu Thr  
           260                  265                  270  
 Thr Glu Glu Thr Lys Glu Leu Leu Ala Tyr Phe Ala Asp Glu Arg  
           275                  280                  285  
 Gln Thr His Ile Arg Lys Thr Phe Asp Ile Val Lys Asp Thr Asn Glu  
           290                  295                  300  
 Gln Ile Ala Tyr Leu Arg Ser Ser Val Ile Gly Leu Leu Ile Lys Glu  
           305                  310                  315                  320  
 Cys Thr Gln Val Phe Leu Asn Asn Glu Thr Glu Ile Leu Ser Gly Thr  
           325                  330                  335  
 Phe Glu Gly Ala Leu Ile Lys His Ile Ser Glu Arg Pro Gly Lys Ala  
           340                  345                  350  
 Tyr Lys His Cys Ser Glu Val Ser Phe Ser Lys Ile Tyr Arg Ser Arg  
           355                  360                  365  
 Asp Val Leu Asp Ile Glu Leu Ala Gly Phe Arg Val Ile Asn Thr Leu  
           370                  375                  380  
 Leu Glu Leu Met Ile Asp Ala Val Thr Ser Pro Glu Lys Ala Tyr Ser  
           385                  390                  395                  400  
 Gln Leu Leu Ile Asn Arg Val Ser Gly Gln Tyr Asn Ile Lys Ala Pro  
           405                  410                  415  
 Ala Leu Tyr Glu Arg Val Gln Ala Val Leu Asp Tyr Ile Ser Gly Met  
           420                  425                  430  
 Thr Asp Val Phe Ala Leu Asp Leu Tyr Arg Lys Ile Asn Gly Asn Ser  
           435                  440                  445  
 Leu Pro Ala Val  
           450

&lt;210&gt; 6552

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6552

Phe Gln Lys Lys Pro Tyr Leu Cys Thr Arg Asn Arg Glu Thr Thr Ile  
 1              5                  10                  15  
 Gln Asn Glu Ser Lys Val Lys Gln Lys Glu Gln Lys Cys Ser Lys Gln  
           20                  25                  30  
 Asp Gly Pro Phe Val Tyr Arg Leu Gly Arg Lys Ile Phe Ile Leu Glu  
           35                  40                  45  
 Arg Gly Val Arg Phe Pro His Gly Leu Gln Leu Lys Lys  
           50                  55                  60

&lt;210&gt; 6553

&lt;211&gt; 208

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6553

Met	Lys	Lys	Lys	Tyr	Leu	Val	Ile	Val	Leu	Leu	Phe	Leu	Val	Ala	Asn
1				5					10					15	
Thr	Cys	Tyr	Ile	Tyr	His	Gln	His	Val	Gly	Leu	Lys	Lys	Val	His	Ser
			20					25				30			
Phe	Leu	Ser	Glu	Leu	Arg	Gln	Asp	Thr	Gly	Glu	Arg	Leu	Gly	Ile	Leu
			35				40				45				
Glu	Met	Gln	Lys	Glu	Asp	Arg	Val	Tyr	Glu	Ile	Gln	Phe	Asn	Gly	Gln
			50				55				60				
Leu	Ile	Asp	Lys	Glu	Leu	Thr	Val	Ile	Asp	Thr	Asp	Gly	Lys	Gln	Lys
	65				70				75				80		
Lys	Ile	Gly	Asp	Leu	Ile	Ile	Asp	Asn	Pro	Lys	Leu	Val	Phe	Arg	Phe
			85					90				95			
Ser	Glu	Leu	Asn	Cys	Asp	Lys	Cys	Ile	Asp	Ala	Gln	Ile	Arg	Asn	Leu
			100					105				110			
Asn	Glu	Tyr	Val	Asp	Ser	Ile	Glu	Leu	Gln	Asn	Ile	Ile	Leu	Leu	Thr
			115					120				125			
Asp	Phe	Gln	Ser	Leu	Glu	Tyr	Met	Arg	Ser	Phe	Gln	Lys	Ser	Asn	Lys
			130				135				140				
Val	Lys	Phe	Ala	Ile	Tyr	Asn	Met	Glu	Ala	Glu	Ile	Asp	Ser	Val	Leu
	145					150				155				160	
Val	Asn	Ile	Asp	Leu	Pro	Tyr	Phe	Phe	Val	Leu	Thr	Pro	Gln	Glu	Glu
					165				170				175		
Arg	Ile	Gln	Cys	Met	Tyr	Ile	Pro	His	Lys	Glu	Ile	Pro	Phe	Leu	Thr
			180					185				190			
Glu	Val	Tyr	Leu	Ser	Ser	Val	Lys	Arg	Lys	Phe	Phe	Thr	Asp	Leu	Glu
			195				200				205				

&lt;210&gt; 6554

<211> 140  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6554

Gly	Trp	Cys	Leu	Tyr	Tyr	Glu	Leu	Cys	Ile	Asp	Ile	Cys	Ile	Arg	Cys
1				5				10				15			
Ile	Leu	Phe	Asn	Glu	Leu	Ala	Ala	Trp	Thr	Tyr	Val	Phe	Thr	His	Gln
					20			25				30			
His	Gly	Glu	Asp	Ile	Val	Gly	Phe	Cys	Cys	Val	Val	Asp	Ile	Asn	Leu
				35			40				45				
Phe	Gln	His	Thr	Val	Phe	Arg	Ile	His	Ser	Arg	Phe	Pro	Gln	Leu	Leu
				50			55				60				
Gly	Ile	His	Leu	Thr	Gln	Thr	Phe	Val	Ala	Leu	Cys	Met	Asp	Cys	Ile
	65				70				75				80		
Phe	Arg	Thr	Ala	Thr	Ile	Ser	Val	Asp	Lys	Leu	Leu	Ala	Leu	Arg	Ile
			85					90				95			
Cys	Pro	Ala	Ile	Leu	Phe	Tyr	Phe	Ser	Phe	Phe	Ala	Lys	Val	Glu	Arg
			100					105				110			
Gly	Ser	Gly	Asn	Val	Gln	Ile	Ala	Ile	Leu	Asp	Asp	Leu	Trp	His	Ile
			115					120				125			
Ala	Glu	Glu	Lys	Ser	His	Asp	Gln	Cys	Val	Asp	Val				
			130				135				140				

&lt;210&gt; 6555

<211> 113  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6555

Met Gly Val Lys Arg Asn Thr Arg His Arg Ile Trp Leu Ala Trp Met  
 1 5 10 15  
 Leu Leu Met Thr Phe Met Pro Leu Ser Val Val Lys Val Phe His Asn  
 20 25 30  
 His Ser Glu Glu Thr Ser Ile Thr Cys Thr Asp Ala His Ser Gly Lys  
 35 40 45  
 Ser His His Thr Cys Glu Thr Cys Pro Ile Cys Gln Phe Met Leu Ser  
 50 55 60  
 Pro Phe Ile Glu Thr Pro Ser Thr Leu Leu Thr Tyr Thr Pro Leu Tyr  
 65 70 75 80  
 Val Lys Trp Glu Ser Gly Thr Phe Gln Asp Lys Lys Leu Ser Ile Ala  
 85 90 95  
 Phe Tyr Pro His Tyr Leu Arg Gly Pro Pro Pro Val Phe Tyr His Ile  
 100 105 110  
 Val

&lt;210&gt; 6556

&lt;211&gt; 880

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

<400> 6556  
 His Thr Val Asp Pro Ser Ser Pro Val Val Lys Thr His Asn Leu Ser  
 1 5 10 15  
 Leu Glu Glu Val Ala Val Tyr Ala Tyr Arg Asn Lys Ala Gly Lys Ala  
 20 25 30  
 Asn Trp Glu Val Thr Arg Ala Ser Ala Asp Thr Ile Pro Ala Asp Thr  
 35 40 45  
 Ala Ser Thr Asp Phe Asn Ser Glu Ile Asp Ile Arg Asn Ile Glu Leu  
 50 55 60  
 Lys His Ala Asn Leu Val Phe Asp Asp Arg Asn Thr Asp Ile Tyr Ser  
 65 70 75 80  
 Arg Ile Asp Asp Ala Asn Leu Lys Leu Arg Leu Ser Leu Thr Lys Gly  
 85 90 95  
 Ile Ser Thr Leu Gly Leu Lys Phe Asp Asn Lys Asn Ile Leu Phe Trp  
 100 105 110  
 Gln Gln Gly Glu Leu Leu Val Asn Lys Ile Ala Thr Ser Leu Arg Thr  
 115 120 125  
 Asp Ile Met Val Asp Arg Gln Thr Ala Val Trp Lys Leu Lys Asp Thr  
 130 135 140  
 Glu Leu Asp Val Asn Gly Ile Arg Leu Asp Val Asn Gly Ala Phe Arg  
 145 150 155 160  
 Arg Asp Thr Val Ala Lys Thr Ile Gly Met Asp Leu Glu Tyr Gly Leu  
 165 170 175  
 His Ala Pro Ser Met Glu Thr Val Leu Arg Met Ile Pro Lys Ser Tyr  
 180 185 190  
 Val Lys Asp Thr Lys Val Ser Ala Lys Gly Glu Val Thr Val Ser Gly  
 195 200 205  
 Arg Val Arg Gly Val Tyr Gly Asp Lys Lys Leu Pro Ala Val Ser Leu  
 210 215 220  
 Lys Ile Gly Ile Lys Glu Ala Ser Ala Gln Tyr Lys Gly Leu Pro Tyr  
 225 230 235 240  
 Gly Ile Asp Glu Val Thr Ala Asp Phe Asp Ala Tyr Val Asp Leu Met  
 245 250 255  
 Arg His Gln Pro Ser Tyr Leu Asn Leu Lys Ile Phe His Phe Lys Gly  
 260 265 270  
 Ala His Thr Glu Val Leu Ala Asp Ala Lys Val Asp Asp Leu Leu Asp  
 275 280 285

Asp Pro Leu Ile Thr Phe His Thr Lys Ser Thr Val Asp Leu Asp Ala  
 290 295 300  
 Leu Ala Lys Thr Phe Pro Leu Gln Glu Ser Val Thr Ile Thr Gly Lys  
 305 310 315 320  
 Leu Asp Ala Asp Met Gly Met Lys Cys Arg Leu Ser Ala Leu Lys Lys  
 325 330 335  
 Gln Asp Ile Gly Arg Met Lys Leu Gly Gly Lys Leu Glu Leu Lys Asp  
 340 345 350  
 Phe Glu Leu Lys Asp Thr Ala Lys Asp Phe Asp Phe Leu Gly Asn Ala  
 355 360 365  
 Thr Phe Arg Phe Arg Asp Asn Glu Thr Leu Gln Ala Gln Met Asp Val  
 370 375 380  
 Arg Lys Leu Val Leu Arg Ser Arg Phe Leu Ser Ser Asp Ile Glu Arg  
 385 390 395 400  
 Leu Val Ala Asn Val Ser Ser Thr Asn Pro Gln Asp Thr Asn Arg Ile  
 405 410 415  
 Val Ser Leu Gln Cys Asp Met Glu Val Ser Lys Leu Arg Ala Ser Met  
 420 425 430  
 Gly Asp Ser Ile Lys Leu Tyr Ser Ala Arg Ala Lys Ala Gln Ala Ala  
 435 440 445  
 Leu Gly Pro Gln Gly Val Asp Val Thr Lys Pro Ala Ile Asp Phe Ser  
 450 455 460  
 Leu Arg Ala Asp Ser Leu Phe Phe Ser Ala Ala Gly Thr Arg Met Ala  
 465 470 475 480  
 Met Asn Val Ala Gly Ile Lys Met Lys Ala Asp Lys Leu Asn Asp Ser  
 485 490 495  
 Leu Trp Met Pro Lys Gly Ile Val Gly Phe Asn Arg Leu Arg Phe Arg  
 500 505 510  
 Thr Pro Glu Phe Gly Leu Pro Ile Arg Met Ser Lys Thr Ala Val Thr  
 515 520 525  
 Val Asp Gly Pro Lys Ile Thr Leu Lys Asn Ala Ser Val Arg Ile Gly  
 530 535 540  
 Arg Ser Asn Met Thr Ala Thr Gly Asp Met Met Gly Val Tyr Arg Ala  
 545 550 555 560  
 Met Thr Lys Gly Glu Lys Leu Thr Ala His Leu Ser Leu Thr Ser Asp  
 565 570 575  
 Leu Ile Asp Cys Asn Gln Leu Ile Asn Ser Leu Ser Phe Pro Glu Asp  
 580 585 590  
 Thr Thr Glu Val Leu Thr Asp Ser Val Pro Ser Glu Met Lys Leu Phe  
 595 600 605  
 Val Ile Pro Arg Asn Ile Asp Phe Glu Leu Gln Thr Asp Leu Lys Lys  
 610 615 620  
 Val Ile Phe Glu Lys Met Leu Phe Glu Asn Val His Gly Ala Val Asp  
 625 630 635 640  
 Ile Lys Asn Gln Ala Ile His Leu Glu Asp Leu Ser Met Arg Ala Leu  
 645 650 655  
 Asp Ala Asp Met Lys Ala Val Met Val Tyr Lys Ala Gly Ser Pro Arg  
 660 665 670  
 Gly Gly Tyr Ala Gly Phe Asp Phe Lys Ile Arg Asn Ile Asn Ile Ala  
 675 680 685  
 Lys Leu Val Asp Phe Val Pro Ala Leu Asp Thr Ile Val Pro Met Leu  
 690 695 700  
 Arg Ser Phe Lys Gly Arg Val Met Phe Asp Val Ala Ala Asp Ala Arg  
 705 710 715 720  
 Leu Asp Ser Ala Met Asn Ile Arg Ile Pro Thr Leu Arg Ser Ala Ile  
 725 730 735  
 His Ile Lys Gly Asp Ser Leu Val Leu Met Asp Gly Glu Thr Phe Ala  
 740 745 750  
 Glu Ile Ser Lys Met Leu Met Phe Lys Asn Lys Lys Glu Asn Val Phe

755	760	765
Asp Ser Ile Ser Val Asn Val	Thr Val His Asp Gly Asn Val Thr Val	
770	775	780
Tyr Pro Phe Leu Val Glu Ile Asp Arg Tyr Lys Ala Ala Val Gly Gly		
785	790	795
Glu Gln Gly Leu Asp Met Asn Phe Asn Tyr His Ile Ser Ile Leu Lys		800
805	810	815
Ser Pro Leu Pro Phe Lys Ala Gly Val Asn Ile Ser Gly Asn Leu Asp		
820	825	830
Lys Met Lys Phe Arg Ile Gly Lys Ala Lys Tyr Lys Asp Ala Val Thr		
835	840	845
Pro Ala Ala Val His Arg Val Asp Ser Thr Arg Met Asn Met Gly Asn		
850	855	860
Glu Ile Val Asn Arg Phe Arg Arg Val Val Leu Gly Arg Gln Pro Arg		
865	870	875
		880

&lt;210&gt; 6557

&lt;211&gt; 217

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6557

Lys Gln Ser Leu Asn Tyr Asn Trp Thr Leu Phe Met Arg Phe Gln Val		
1	5	10
Arg Ser Ile Leu Leu Phe Val Leu Leu Leu Ile Ile Phe Leu Gln Gln		
20	25	30
Thr Ile Ala Met Asn Val Leu Arg Asn Trp Leu Tyr Leu Phe Pro Ile		
35	40	45
Ser Leu Leu Met Ile Leu Leu Phe Ser Cys Asn Gln Ile Lys Glu Tyr		
50	55	60
Asp Ala Lys Glu Arg Thr Ser Arg Asn Thr Arg Val Gln His Leu Ile		
65	70	75
Glu Lys Asp Ile Thr Trp Leu Val Gly Lys Lys Leu Asn Ser Val Asp		
85	90	95
Ser Ile Leu Pro Asn Glu Leu Leu His Glu Lys Val Leu Phe Leu Phe		
100	105	110
Asn Tyr His Asp Cys Gly Thr Cys Ile Lys Thr Gly Phe Ala Val Val		
115	120	125
Asn Ser Ile Asp Arg Gln Lys Gly Lys Glu Tyr Val Lys Val Ile Gly		
130	135	140
Ser Met Ile Ser Asp Leu Thr Ser Val Gln Arg Phe Asn Glu Tyr His		
145	150	155
Gly Tyr Ile Tyr Val Asp Thr Lys Asp Leu Ile Arg Arg Glu Leu Lys		
165	170	175
Tyr Ala Pro Thr Pro Met Leu Leu Arg Val Asp Thr Asp Asn Arg Ile		
180	185	190
Leu Glu Ala Leu Ile Pro Thr Thr Glu Met Asp Asn Gln Thr Ile Lys		
195	200	205
Met Phe Ile Ala Ser Cys Leu Lys Arg		
210	215	

&lt;210&gt; 6558

&lt;211&gt; 347

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6558

Gln Ile Lys Glu Gln Leu Leu Thr Lys Tyr Met Glu Glu Val Ile Glu		
1	5	10
		15

Pro Val Ser Lys Glu Leu Ile Ile Ala Glu Leu Thr Glu Asp Lys Arg  
     20                       25                       30  
 Leu Arg Met Thr Asn Lys Ser Asn Asn Gln Ile Tyr Ile Ile Thr Tyr  
     35                       40                       45  
 Gln Asp Ser Pro Asn Ile Met Arg Glu Ile Gly Arg Leu Arg Glu Ile  
     50                       55                       60  
 Ala Phe Arg Ala Ala Gly Gly Thr Gly Leu Ser Met Asp Ile Asp  
     65                       70                       75                       80  
 Glu Tyr Asp Thr Met Glu Asn Pro Tyr Lys Gln Leu Ile Val Trp Asn  
     85                       90                       95  
 Pro Glu Ala Glu Glu Ile Leu Gly Gly Tyr Arg Tyr Ile Leu Gly Thr  
     100                       105                       110  
 Asp Val Arg Phe Asp Glu His Gly Ala Pro Val Leu Ala Thr Ser His  
     115                       120                       125  
 Met Phe Asn Phe Ser Asp Arg Phe Val Lys Glu Phe Leu Pro Thr Thr  
     130                       135                       140  
 Ile Glu Leu Gly Arg Ser Phe Val Thr Leu Glu Tyr Gln Ser Thr Arg  
     145                       150                       155                       160  
 Ala Gly Ser Lys Gly Leu Phe Ala Leu Asp Asn Leu Trp Asp Gly Leu  
     165                       170                       175  
 Gly Ala Leu Thr Val Val Met Pro Asn Val Lys Tyr Phe Phe Gly Lys  
     180                       185                       190  
 Val Thr Met Tyr Pro Ser Tyr His Arg Gln Gly Arg Asp Met Ile Leu  
     195                       200                       205  
 Tyr Phe Leu Lys Lys His Phe Gly Asp Lys Asp Gly Leu Ile Thr Pro  
     210                       215                       220  
 Met Lys Pro Leu Glu Met Glu Thr Asp Glu Ala Glu Leu Ala Arg Ile  
     225                       230                       235                       240  
 Phe Cys Lys Asp Ser Phe Lys Asp Asp Tyr Arg Ile Leu Asn Gly Glu  
     245                       250                       255  
 Ile Arg Lys Leu Gly Phe Asn Ile Pro Pro Leu Val Asn Ala Tyr Met  
     260                       265                       270  
 Ser Leu Ser Pro Thr Met Arg Met Phe Gly Thr Ala Ile Asn Tyr Gly  
     275                       280                       285  
 Phe Gly Asp Val Glu Glu Thr Gly Ile Leu Ile Ala Val Asp Glu Ile  
     290                       295                       300  
 Leu Glu Glu Lys Arg Met Arg His Ile Glu Ser Phe Val Lys Asn Asp  
     305                       310                       315                       320  
 Pro Glu Asp Cys Gln Ile Thr Ser Gly Val Asn Lys Val Phe Thr Pro  
     325                       330                       335  
 Lys Val Val Thr Pro Gln Glu Asp Cys Ser Arg  
     340                       345

&lt;210&gt; 6559

&lt;211&gt; 486

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6559

Gly Met Lys Leu Lys Glu Ile Leu Thr Ser Ile Gln Pro Val Lys Ile  
     1                       5                       10                       15  
 Thr Gly Asn Gln Asp Ile Glu Ile Thr Gly Val Asp Ile Asp Ser Arg  
     20                       25                       30  
 Gln Val Glu Ser Gly His Leu Phe Met Ala Met Arg Gly Thr Gln Thr  
     35                       40                       45  
 Asp Gly His Ala Tyr Ile Pro Ala Ala Val Glu Lys Gly Ala Thr Ala  
     50                       55                       60  
 Ile Leu Cys Glu Glu Leu Pro Ala Glu Leu Val Glu Gly Val Thr Tyr  
     65                       70                       75                       80

Ile Gln Val Ala Asp Ser Glu Asp Ala Val Gly Lys Ala Ala Thr Thr  
 85 90 95  
 Phe Tyr Gly Asn Pro Ser Ser Lys Leu Glu Leu Val Gly Val Thr Gly  
 100 105 110  
 Thr Asn Gly Lys Thr Thr Ile Ala Thr Leu Leu Tyr Asn Thr Phe Arg  
 115 120 125  
 Tyr Phe Gly Tyr Lys Val Gly Leu Ile Ser Thr Val Cys Asn Tyr Ile  
 130 135 140  
 Asp Asp Glu Ala Ile Pro Thr Glu His Thr Thr Pro Asp Pro Ile Thr  
 145 150 155 160  
 Leu Asn Arg Leu Leu Gly Arg Met Ala Asp Glu Gly Cys Lys Tyr Val  
 165 170 175  
 Phe Met Glu Val Ser Ser His Ser Ile Ala Gln Lys Arg Ile Ser Gly  
 180 185 190  
 Leu Lys Phe Ala Gly Gly Ile Phe Thr Asn Leu Thr Arg Asp His Leu  
 195 200 205  
 Asp Tyr His Lys Thr Val Glu Asn Tyr Leu Lys Ala Lys Lys Lys Phe  
 210 215 220  
 Phe Asp Asp Met Pro Lys Asn Ser Phe Ser Leu Thr Asn Leu Asp Asp  
 225 230 235 240  
 Lys Asn Gly Leu Val Met Thr Gln Asn Thr Lys Ser Lys Val Tyr Thr  
 245 250 255  
 Tyr Ser Leu Arg Ser Leu Ser Asp Phe Lys Gly Arg Val Leu Glu Ser  
 260 265 270  
 His Phe Glu Gly Met Leu Leu Asp Phe Asn Asn His Glu Leu Ala Val  
 275 280 285  
 Gln Phe Ile Gly Lys Phe Asn Ala Ser Asn Leu Leu Ala Val Phe Gly  
 290 295 300  
 Ala Ala Val Leu Leu Gly Lys Glu Glu Asp Val Leu Val Ala Leu  
 305 310 315 320  
 Ser Thr Leu His Pro Val Ala Gly Arg Phe Asp Ala Ile Arg Ser Pro  
 325 330 335  
 Gln Gly Tyr Thr Ala Ile Val Asp Tyr Ala His Thr Pro Asp Ala Leu  
 340 345 350  
 Val Asn Val Leu Asn Ala Ile His Gly Val Leu Glu Gly Lys Gly Lys  
 355 360 365  
 Val Ile Thr Val Val Gly Ala Gly Gly Asn Arg Asp Lys Gly Lys Arg  
 370 375 380  
 Pro Ile Met Ala Lys Glu Ala Ala Arg Ala Ser Asp Arg Val Ile Ile  
 385 390 395 400  
 Thr Ser Asp Asn Pro Arg Phe Glu Glu Pro Gln Asp Ile Ile Asn Asp  
 405 410 415  
 Met Leu Ala Gly Leu Asp Thr Glu Asp Lys Lys Lys Thr Leu Ser Ile  
 420 425 430  
 Ala Asp Arg Lys Glu Ala Ile Arg Thr Ala Cys Met Leu Ala Glu Lys  
 435 440 445  
 Gly Asp Val Ile Leu Val Ala Gly Lys Gly His Glu Asn Tyr Gln Asp  
 450 455 460  
 Ile Lys Gly Val Lys His His Phe Asp Asp Lys Glu Val Leu Lys Glu  
 465 470 475 480  
 Ile Phe Ser Leu Thr Val  
 485

&lt;210&gt; 6560

&lt;211&gt; 82

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6560

Lys Pro Ser Cys Asn Trp His His Phe Tyr Tyr Lys Ala Gly Lys Arg  
 1 5 10 15  
 Lys Gly Val Lys Gln Arg Leu Phe Lys Arg Ala Pro Ile His Asp His  
 20 25 30  
 Phe Arg Thr Ser Met Ser Leu Val Glu Pro Gly Cys Ser Val Lys Phe  
 35 40 45  
 Thr Lys Pro Asp Gln Leu Phe His Glu Ser Lys Ile Thr Val Arg Phe  
 50 55 60  
 Trp Ile Val Thr Ile Val Leu Ala Ala Ile Thr Ile Ile Thr Leu Lys  
 65 70 75 80  
 Ile Arg

&lt;210&gt; 6561

&lt;211&gt; 595

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6561

Met Phe Gly Arg Ile Asn Asn Cys Ser Lys Met Lys Ile Asn Lys Leu  
 1 5 10 15  
 Leu Phe Gly Met Leu Leu Leu Leu Ala Ser Cys Gly Ser Ser Arg  
 20 25 30  
 Lys Val Glu Lys Gln Ser Glu Gln Val Ala Val Gln Glu Ile Asn Leu  
 35 40 45  
 Thr Pro Glu Gln Gln Arg Lys Tyr Asp Tyr Phe Phe Leu Glu Ala Ser  
 50 55 60  
 Arg Leu Lys Val Lys Lys Glu Tyr Thr Ala Ala Phe Asp Leu Leu Gln  
 65 70 75 80  
 His Cys Leu Ala Ile Asn Pro Thr Gly Ser Ala Ala Leu Tyr Glu Ile  
 85 90 95  
 Ala Gln Tyr Tyr Leu Phe Leu Lys Gln Val Pro Gln Gly Gln Glu Ala  
 100 105 110  
 Leu Glu Lys Ala Val Ala Tyr Ala Pro Asp Asn Tyr Trp Tyr Ser Gln  
 115 120 125  
 Ala Leu Ala Gly Leu Tyr Gln Gln Asp Gln Lys Glu Lys Ala Ile  
 130 135 140  
 Gly Ile Leu Glu Lys Met Ala Thr Arg Phe Pro Ala Lys Gln Asp Pro  
 145 150 155 160  
 Leu Phe Asn Leu Leu Asp Leu Tyr Asn Gln Lys Glu Asp Tyr Gly Lys  
 165 170 175  
 Val Ile Ser Thr Leu Asn Arg Ile Glu Glu Lys Thr Gly Lys Asn Glu  
 180 185 190  
 Gln Ile Thr Met Glu Lys Phe Arg Ile Tyr Leu Gln Met Lys Asp Asn  
 195 200 205  
 Lys Lys Ala Phe Glu Glu Ile Glu Ser Leu Val Asn Glu Tyr Pro Met  
 210 215 220  
 Asp Tyr Arg Tyr Gln Val Ile Leu Gly Asp Val Tyr Met Gln Asn Gly  
 225 230 235 240  
 Lys Lys Gln Glu Ala Tyr Asp Thr Tyr Lys Lys Val Leu Ala Ala Glu  
 245 250 255  
 Pro Asp Asn Pro Met Ala Leu Phe Ser Leu Ala Ser Tyr Tyr Glu Gln  
 260 265 270  
 Thr Gly Gln Lys Glu Leu Phe Glu Gln Gln Met Asp Thr Leu Leu Leu  
 275 280 285  
 Asn Arg Lys Val Pro Ser Asp Thr Lys Val Asn Val Met Arg Gln Phe  
 290 295 300  
 Ile Val Gln Ser Glu Gln Glu Gly Lys Asp Ser Thr Gln Val Ile Gly  
 305 310 315 320

Leu Phe Asp Arg Met Met Gln Met Asp Met Asp Asp Val Gln Ile Pro  
                   325                  330                  335  
 Met Leu Tyr Ala Gln Tyr Leu Leu Ser Lys Gly Met Glu Ala Gln Ser  
                   340                  345                  350  
 Ile Pro Val Leu Glu Gln Val Val Gln Ile Asp Pro Thr Asn Lys Ala  
                   355                  360                  365  
 Ala Arg Met Thr Leu Leu Gly Ser Ala Ile Arg Lys Asn Asp Tyr Glu  
                   370                  375                  380  
 Gln Val Ile Lys Ile Cys Glu Pro Gly Ile Glu Ala Thr Pro Asp Ala  
                   385                  390                  395                  400  
 Leu Glu Phe Tyr Phe Tyr Leu Val Ile Ala Tyr Asn Gln Ala Glu His  
                   405                  410                  415  
 Trp Asp Asp Val Leu Glu Val Ser Arg Lys Ala Leu Glu His Val Thr  
                   420                  425                  430  
 Pro Glu Ser Asp Lys Gln Met Val Ser Asp Phe Tyr Thr Ile Ile Gly  
                   435                  440                  445  
 Asp Val Tyr His Thr Lys Lys Leu Met Lys Glu Ala Tyr Val Ala Tyr  
                   450                  455                  460  
 Asp Ser Ala Leu Val Tyr Asn Pro Ser Asn Ile Gly Ala Leu Asn Asn  
                   465                  470                  475                  480  
 Tyr Ala Tyr Tyr Leu Ser Val Glu Arg Arg Asp Leu Asp Lys Ala Glu  
                   485                  490                  495  
 Glu Met Ser Tyr Lys Thr Val Lys Ala Ala Pro Asn Asn Ala Thr Tyr  
                   500                  505                  510  
 Leu Asp Thr Tyr Ala Trp Ile Leu Phe Glu Lys Gly Asn Tyr Ala Glu  
                   515                  520                  525  
 Ala Arg Ile Tyr Ile Asp Asp Ala Ile Lys Asn Thr Lys Pro Glu Glu  
                   530                  535                  540  
 Glu Ser Ser Val Val Phe Glu His Cys Gly Asp Ile Tyr Phe Met Thr  
                   545                  550                  555                  560  
 Gly Asp Val Glu Gly Ala Leu Lys Tyr Trp Lys Lys Ala Leu Glu Leu  
                   565                  570                  575  
 Gly Thr Glu Ser Lys Thr Leu Lys Gln Lys Ile Glu Lys Lys Tyr  
                   580                  585                  590  
 Ile Ala Glu  
                   595

&lt;210&gt; 6562

&lt;211&gt; 389

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6562

Thr Val Met Leu Asn Leu Lys Ser Asn Met Asn Lys Glu Asn Asn Lys  
 1              5                  10                  15  
 Glu Gly Gln Gly Asp Ala Leu Arg Val Ile Ile Ser Gly Gly Thr  
                   20                  25                  30  
 Gly Gly His Ile Phe Pro Ala Val Ser Ile Ala Asn Ala Ile Lys Glu  
                   35                  40                  45  
 Leu Arg Pro Asp Ala Gln Ile Leu Phe Val Gly Ala Glu Gly Arg Met  
                   50                  55                  60  
 Glu Met Gln Arg Val Pro Asp Ala Gly Tyr Gln Ile Ile Gly Leu Pro  
                   65                  70                  75                  80  
 Val Ala Gly Phe Asp Arg Lys His Leu Trp Lys Asn Val Ala Val Leu  
                   85                  90                  95  
 Leu Lys Leu Val Arg Ser Gln Trp Lys Ala Arg Asn Ile Ile Arg Gln  
                   100                  105                  110  
 Phe Arg Pro Gln Val Ala Val Gly Val Gly Gly Tyr Ala Ser Gly Pro  
                   115                  120                  125

Thr Leu Lys Met Ala Gly Met Met Gly Val Pro Thr Leu Ile Gln Glu  
 130 135 140  
 Gln Asn Ser Tyr Ala Gly Val Thr Asn Lys Leu Leu Ala Gln Lys Ala  
 145 150 155 160  
 Arg Arg Ile Cys Val Ala Tyr Asp Gly Met Glu Lys Phe Phe Pro Ala  
 165 170 175  
 Asn Lys Ile Ile Met Thr Gly Asn Pro Val Arg Gln Asn Leu Leu Ala  
 180 185 190  
 Glu Lys Pro Glu Arg Glu Gln Ala Ile Arg Ser Phe Gly Leu Asn Pro  
 195 200 205  
 Glu Lys Lys Thr Ile Leu Ile Leu Gly Gly Ser Leu Gly Ala Arg Thr  
 210 215 220  
 Ile Asn Asn Thr Leu Ile Ala Gly Leu Gln Leu Ile Arg Arg Thr Thr  
 225 230 235 240  
 Asp Val Gln Phe Ile Trp Gln Thr Gly Lys Ile Tyr His Gln Gln Val  
 245 250 255  
 Thr Glu Ala Val Lys Ala Ala Gly Glu Ile Leu Asn Leu Phe Val Thr  
 260 265 270  
 Asp Phe Ile Lys Asp Met Ala Ala Ala Tyr Ala Ala Asp Leu Val  
 275 280 285  
 Ile Ser Arg Ala Gly Ala Gly Ser Ile Ser Glu Phe Cys Leu Leu Asn  
 290 295 300  
 Lys Pro Val Ile Leu Val Pro Ser Pro Asn Val Ala Glu Asp His Gln  
 305 310 315 320  
 Thr Lys Asn Ala Leu Ala Leu Val Asn Lys Gln Ala Ala Ile Tyr Val  
 325 330 335  
 Lys Asp Ala Glu Ala Glu Asn Lys Leu Leu Pro Val Ala Leu Glu Thr  
 340 345 350  
 Ile Ala Asn Ala Glu Lys Leu Ser Glu Leu Ser Glu Asn Ile Ala His  
 355 360 365  
 Leu Ala Leu Pro Asp Ser Ala Val Val Ile Ala Lys Glu Val Ile Lys  
 370 375 380  
 Leu Ala Gln Gln Ser  
 385

<210> 6563  
 <211> 206  
 <212> PRT  
 <213> B.fragilis

<400> 6563  
 Thr Glu Asn Arg Lys Lys Glu Ile His Cys Arg Met Lys Gly Ser Lys  
 1 5 10 15  
 Leu Lys Gln Thr Val Ile Lys Gln Ser Tyr Leu Leu Pro Leu Leu Leu  
 20 25 30  
 Met Val Val Leu Leu Ala Gly Cys Lys Thr Ser Lys Val Val Lys Thr  
 35 40 45  
 Thr Pro Val Glu Pro Ala Tyr Leu Ser Ser Lys Leu Gln Leu Thr Val  
 50 55 60  
 Pro Asn Lys Asn Gly Ser Met Thr Val Ser Gly Ser Met Lys Met Lys  
 65 70 75 80  
 Ser Gly Glu Arg Ile Gln Leu Ser Val Leu Met Pro Val Phe Arg Ser  
 85 90 95  
 Glu Val Met Arg Met Glu Val Thr Pro Asp Glu Val Leu Leu Ile Asp  
 100 105 110  
 Arg Met Asn Lys Arg Tyr Val Arg Ala Thr Arg Asp Glu Leu Lys Gly  
 115 120 125  
 Ile Leu Pro Glu Asn Ala Asp Phe Asp Arg Leu Glu Lys Leu Leu Phe  
 130 135 140

Lys Ala Ser Leu Pro Gly Glu Lys Lys Glu Leu Thr Gly Arg Glu Leu  
 145 150 155 160  
 Gly Ile Pro Ser Leu Glu Lys Ala Lys Val Arg Leu Ser Asp Phe Ser  
 165 170 175  
 Thr Ala Glu Phe Glu Leu Ile Pro Thr Glu Val Ser Ser Arg Tyr Thr  
 180 185 190  
 Gln Val Ala Leu Glu Asp Leu Leu Lys Met Leu Ile Gln Leu  
 195 200 205

&lt;210&gt; 6564

&lt;211&gt; 150

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6564

Ile Val Asn Arg Leu Asn Met Asn Ile Gln Val Ile Asn Lys Ser Lys  
 1 5 10 15  
 His Pro Leu Pro Ala Tyr Ala Thr Glu Leu Ser Ala Gly Met Asp Ile  
 20 25 30  
 Arg Ala Asn Ile Ser Glu Pro Ile Ser Leu Ala Pro Met Gln Arg Cys  
 35 40 45  
 Leu Val Pro Thr Gly Leu Phe Ile Ala Leu Pro Gln Gly Phe Glu Ala  
 50 55 60  
 Gln Ile Arg Pro Arg Ser Gly Leu Ala Leu Lys Lys Gly Ile Thr Val  
 65 70 75 80  
 Leu Asn Ser Pro Gly Thr Ile Asp Ala Asp Tyr Arg Gly Glu Ile Cys  
 85 90 95  
 Ile Ile Leu Val Asn Leu Ser Ala Glu Thr Phe Val Ile Glu Asp Gly  
 100 105 110  
 Glu Arg Ile Ala Gln Met Val Ile Ala Arg His Glu Gln Ala Val Trp  
 115 120 125  
 Lys Glu Val Glu Val Leu Asp Glu Thr Glu Arg Gly Ala Gly Gly Phe  
 130 135 140  
 Gly His Thr Gly Arg Gly  
 145 150

&lt;210&gt; 6565

&lt;211&gt; 723

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6565

Asp Asp Leu Ser Met Arg Ile Gly Phe Phe Ser Gly Met Leu Gly Gly  
 1 5 10 15  
 Leu Cys Leu Ile Ser Thr Leu His Ala Gln Glu Pro Asp Ser Leu Lys  
 20 25 30  
 Ala Val Ser Leu Ser Glu Val Val Thr Glu Ser Tyr Gln His Leu  
 35 40 45  
 Lys Asn Lys Asn Ser Thr Trp Arg Met Glu Val Val Gly Lys Glu Phe  
 50 55 60  
 Leu Arg Glu His Phe Thr Gly Asn Leu Ile Gln Thr Leu Gly Thr Leu  
 65 70 75 80  
 Pro Gly Val His Ser Met Asp Ile Gly Ser Gly Phe Ser Lys Pro Met  
 85 90 95  
 Ile Arg Gly Met Gly Phe Asn Arg Ile Ser Val Val Glu Asn Gly Ile  
 100 105 110  
 Lys Gln Glu Gly Gln Gln Trp Gly Ala Asp His Gly Leu Glu Leu Asp  
 115 120 125  
 Ala Phe Asn Ala Gly Gln Val Ser Ile Arg Lys Gly Pro Ala Ser Leu

130	135	140													
Leu	Tyr	Gly	Ser	Asp	Ala	Met	Gly	Gly	Ala	Ile	Glu	Leu	Val	Pro	Leu
145					150					155					160
Pro	Leu	Pro	Ala	Gly	Asn	Arg	Leu	Phe	Gly	Glu	Ala	Ser	Leu	Leu	Gly
						165				170					175
Lys	Ser	Val	Asn	Gly	Thr	Leu	Gly	Gly	Ser	Leu	Met	Leu	Gly	Ile	Lys
						180				185					190
Lys	Asp	Ala	Trp	Tyr	Thr	Trp	Ala	Arg	Tyr	Ser	Glu	Gln	His	Phe	Gly
						195				200					205
Asp	Tyr	Arg	Ile	Pro	Thr	Asp	Thr	Ile	Val	Tyr	Leu	Thr	Gln	Arg	Met
						210				215					220
Pro	Val	Tyr	His	Arg	Arg	Leu	Lys	Asn	Thr	Ala	Gly	Phe	Glu	Arg	Asp
225						230					235				240
Val	Ser	Trp	Ala	Ala	Gly	Phe	Arg	Lys	Glu	Arg	Tyr	Val	Ser	Ser	Tyr
						245				250					255
Trp	Val	Ser	Asn	Val	Phe	Gln	Lys	Thr	Gly	Phe	Phe	Pro	Gly	Ala	His
						260				265					270
Gly	Ile	Pro	Asp	Val	Ser	Arg	Leu	Gln	Asp	Asp	Gly	Asp	Ser	Arg	Asn
						275				280					285
Ile	Glu	Leu	Pro	Tyr	Ser	Gln	Val	Asn	His	Leu	Lys	Val	Ser	Thr	Arg
						290				295					300
Gln	Ser	Leu	Leu	Tyr	Asp	Lys	Trp	Ala	Leu	Thr	Trp	Asp	Ile	Gly	Phe
305						310					315				320
Gln	Lys	Asn	His	Arg	Glu	Glu	Trp	Ser	Arg	Phe	His	Thr	His	Tyr	Asp
						325					330				335
Ala	Gln	Pro	Val	Pro	Asp	Lys	Asp	Pro	Asp	Lys	Glu	Leu	Ala	Phe	Thr
						340				345					350
Leu	Asn	Thr	Tyr	Ser	Ser	Ala	Val	Lys	Leu	Lys	Leu	Phe	Ala	Ser	Ala
						355				360					365
Val	Trp	Gln	His	Thr	Ala	Gly	Trp	Asp	Val	Gln	Tyr	Gln	Arg	Asn	Thr
						370				375					380
Ile	Ala	Gly	Tyr	Ser	Phe	Leu	Leu	Pro	Ala	Tyr	Arg	Arg	Phe	Thr	Thr
385						390					395				400
Gly	Ala	Phe	Trp	Met	Thr	Thr	Tyr	Arg	Pro	Gly	Pro	Thr	Leu	Ser	Phe
						405					410				415
Ser	Gly	Gly	Leu	Arg	Tyr	Asp	Tyr	Gly	Lys	Ile	Asp	Ala	Ser	Ala	Tyr
						420				425					430
Thr	Asp	Pro	Tyr	Leu	Ala	Ile	Tyr	Leu	Arg	Glu	Gln	Gly	Tyr	Gly	Asp
						435				440					445
Glu	Phe	Ile	Arg	Lys	Tyr	Glu	Trp	Arg	Ser	Tyr	Pro	Val	Arg	Arg	His
						450				455					460
Phe	Gly	Asp	Tyr	Ser	Gly	Ser	Leu	Gly	Leu	Val	Trp	Ser	Pro	Ser	Gly
465							470				475				480
Gly	His	Leu	Leu	Gln	Val	Asn	Val	Gly	His	Ser	Phe	Arg	Leu	Pro	Gly
						485				490					495
Ala	Asn	Glu	Leu	Ala	Ser	Asn	Gly	Val	His	His	Gly	Thr	Phe	Arg	His
						500				505					510
Glu	Gln	Gly	Asp	Ala	Ala	Leu	Ala	Ser	Glu	Arg	Gly	Trp	Gln	Phe	Asp
						515				520					525
Ala	Ser	Tyr	Thr	Tyr	Glu	Asn	Gly	Pro	Leu	Ser	Val	Ser	Leu	Ser	Pro
						530				535					540
Phe	Val	Ser	Trp	Phe	Ser	Asn	Tyr	Ile	Phe	Leu	Arg	Pro	Thr	Gly	Glu
545							550				555				560
Trp	Ser	Ile	Leu	Pro	His	Ala	Gly	Gln	Ile	Tyr	Arg	Tyr	Thr	Gly	Ala
							565				570				575
Glu	Ala	Leu	Phe	Ala	Gly	Gly	Glu	Ala	Ala	Val	Gly	Ile	Asp	Phe	Leu
						580				585					590
Arg	His	Phe	Asn	Tyr	Arg	Val	Ser	Gly	Glu	Tyr	Val	Tyr	Thr	Tyr	Asn
						595				600					605

Cys Asp Glu His Ile Pro Leu Ser Phe Ser Pro Pro Ala Ser Leu Arg  
 610 615 620  
 Asn Thr Leu Thr Trp Arg Tyr Lys Glu Phe Ser Ile Tyr Gly Glu Val  
 625 630 635 640  
 Gln His Ile Ala Ala Gln His Arg Val Ala Arg Asn Glu Asp Pro Thr  
 645 650 655  
 Pro Gly Ala Gln Leu Leu Asn Ala Gly Val Ser Ala Asn Leu Arg Ile  
 660 665 670  
 Gly Gly Ile Trp Ala Glu Val Thr Leu Ser Ala Arg Asn Leu Ser Gly  
 675 680 685  
 Ala Lys Tyr Phe Asn His Leu Ser Phe Tyr Arg Lys Val Glu Ile Pro  
 690 695 700  
 Glu Pro Gly Arg Asn Phe Gln Ile Leu Ile Lys Val Pro Phe Lys Ser  
 705 710 715 720  
 Leu Leu Lys

&lt;210&gt; 6566

&lt;211&gt; 118

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6566

Asn Lys Arg Ser Glu Met Glu Asp Lys Glu Ala Lys Lys Lys Ser  
 1 5 10 15  
 Asn Ser Leu Lys Ser Ile Leu Gly Gly Asp Ile Leu Ala Thr Asp Phe  
 20 25 30  
 Phe Arg Arg Gln Thr Lys Leu Leu Val Leu Ile Met Val Leu Ile Ile  
 35 40 45  
 Phe Tyr Ile His Asn Arg Tyr Ala Ser Gln Gln Gln Ile Glu Ile  
 50 55 60  
 Asp Lys Leu Lys Lys Glu Leu Ile Asp Ile Lys Tyr Asp Ala Leu Thr  
 65 70 75 80  
 Arg Ser Ser Glu Leu Met Glu Lys Ser Arg Gln Ser Arg Ile Glu Asp  
 85 90 95  
 Tyr Ile Ser Thr Lys Glu Ser Asp Leu Gln Thr Ser Thr His Pro Pro  
 100 105 110  
 Tyr Leu Ile Ser Thr Lys  
 115

&lt;210&gt; 6567

&lt;211&gt; 198

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6567

Ser Leu Ile Phe Pro Arg His Cys Leu Lys Asn Ala Val Asn Leu His  
 1 5 10 15  
 His Arg Lys Thr Thr Asn Ile His Asn Leu Lys Ser Asn Val Met Lys  
 20 25 30  
 Ser Leu Ser Phe Arg Lys Asp Leu Ile Gly Val Gln Glu Glu Leu Leu  
 35 40 45  
 Arg Phe Ala Tyr Lys Leu Thr Thr Asp Arg Glu Glu Ala Asn Asp Leu  
 50 55 60  
 Leu Gln Glu Thr Ser Leu Lys Ala Leu Asp Asn Glu Asp Lys Tyr Thr  
 65 70 75 80  
 Pro Asp Thr Asn Phe Lys Gly Trp Met Tyr Thr Ile Met Arg Asn Ile  
 85 90 95  
 Phe Ile Asn Asn Tyr Arg Lys Val Val Arg Asp Gln Thr Phe Val Asp

100	105	110
Gln Thr Asp Asn Leu Tyr His Leu Ser Leu Pro Gln Glu Ser Gly Leu		
115	120	125
Asp Ser Thr Glu Ser Arg Tyr Asp Leu Lys Glu Met His Arg Ile Val		
130	135	140
Asn Ser Leu Pro Lys Glu Tyr Lys Val Pro Phe Ser Met His Val Ser		
145	150	155
Gly Phe Lys Tyr Arg Glu Ile Ala Glu Lys Leu Asp Leu Pro Leu Gly		
165	170	175
Thr Val Lys Ser Arg Ile Phe Phe Thr Arg Gln Arg Leu Gln Glu Glu		
180	185	190
Leu Lys Asp Phe Arg Gln		
195		

&lt;210&gt; 6568

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6568

Ile Ile Phe Phe Ser Pro Ser Lys Met Lys Gly Met Val Thr Ile Pro		
1	5	10
Thr Val Arg Met Ser Ile Ser Leu Ala Ile Arg Ala Met Thr Gly Ala		
20	25	30
Ala Pro Val Pro Val Pro Pro Ile Pro Ala Val Ile Asn Thr Ile		
35	40	45
Leu Val Pro Ser Phe Ser Arg Val Leu Met Ser Ser Met Leu Ser Ser		
50	55	60
Ala Ala Ser Arg Ala Arg Ser Gly Arg Phe Pro Ala Pro Ser Pro Cys		
65	70	75
Val Met Glu Arg Pro Ser Cys Ser Leu Thr Gly Thr Gly Asp Ser Ala		
85	90	95
Asn Ala Trp Leu Ser Val Leu Gln Arg Thr Asn Val Thr Ser Cys Met		
100	105	110
Pro Ser Arg Tyr Met Trp Leu Thr Ala Leu Pro Pro Pro Pro Pro Thr		
115	120	125
Pro Ile Thr Leu Met Ile Phe Gly Glu Ser Val Gly Lys Ser Asn Cys		
130	135	140
Thr Ile Ser Ser Ile Leu Tyr Cys Ile Met Asn Tyr His Phe Ile Ser		
145	150	155
Tyr Leu Arg Gln Lys Lys Phe His		
165		

&lt;210&gt; 6569

&lt;211&gt; 122

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6569

Tyr Lys Ser Ile Ser Leu Phe Ile Met Lys Arg Lys Ile Phe Ser Leu		
1	5	10
Ile Val Val Leu Val Val Thr Ile Ser Phe Ile Asn Val Trp Ile Ser		
20	25	30
Val Gly Ser Thr Asn Ala Lys Val Lys Leu Arg Leu Ala Ala Ile Asp		
35	40	45
Ala Met Ala Met Ile Glu Ala Glu Thr Pro Gly Asp Thr Glu Leu Ser		
50	55	60
Leu Ser Gly Ser Cys Lys Ile Thr Phe Thr Cys Tyr Asp Ser Trp Thr		
65	70	75
		80

Gly Ala Ala Asp Gly Ser Ile Thr Cys Trp Gly Ala Glu Tyr Cys Lys  
                   85                  90                  95  
 Arg Gly Ile Lys Lys Glu Gly Ile Val Ile Ile Thr Glu Thr Arg Trp  
                   100              105                  110  
 Val Glu Cys Asp Gly Lys Arg Thr Glu Cys  
                   115              120

&lt;210&gt; 6570

&lt;211&gt; 414

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6570

Gly Asn His Met Thr Lys Ala Ile Asp Phe Arg Tyr Glu Cys Lys Ile  
   1                  5                  10                  15  
 Ile Val Ile Asn Glu Lys Gln Ile Met Lys Ile Val Asn Ile Phe Val  
   20                  25                  30  
 Ala Leu Phe Cys Leu Thr Ala Cys Ser Leu Ser Asn Asp Leu Lys Asp  
   35                  40                  45  
 Arg Leu Ile Leu Lys Pro Gln Ser Ile Leu Ile Asp Pro Asp Lys Val  
   50                  55                  60  
 Lys Asp Phe Ile Asp Leu Thr Pro Leu Leu Arg Asp Ser Val Glu Ile  
   65                  70                  75                  80  
 Ile Pro Leu Glu Thr Lys Asp Glu Cys Leu Leu Ser Glu Ile Glu Arg  
   85                  90                  95  
 Ile Glu Phe Tyr Lys Asp Arg Ile Phe Val Leu Asp Arg Thr Arg Lys  
   100                105                  110  
 Gly Val Tyr Met Phe Asp Gln Ser Gly Arg Phe Ile Gly Lys Ile Gly  
   115                120                  125  
 Cys Gln Gly Ser Gly Pro Gly Glu Phe Thr Ser Val Gly Phe Phe Cys  
   130                135                  140  
 Val Thr Gly Asp Ser Val Leu Ile Ser Asp Gln His Gln Ser Lys Trp  
   145                150                  155                  160  
 Val Val Tyr Asn Leu Gln Asp Lys Arg Thr Thr Glu Phe Ser Cys Gly  
   165                170                  175  
 Glu Phe Thr Tyr Leu Asn Gly Phe Leu Met Gly Arg Asn Leu Tyr Leu  
   180                185                  190  
 Val Ser Asn Tyr Asn Lys Ser Gln Ser Asp Arg Phe Asn Leu Tyr Lys  
   195                200                  205  
 Phe Asp Val Ser Thr Arg Lys Ile Glu Glu Ala Leu Ile Pro Phe Glu  
   210                215                  220  
 Glu Lys Met Asp Lys Tyr Ser Thr Thr Ala Phe Thr Ile Tyr Ala Ser  
   225                230                  235                  240  
 Gln Tyr Gln Asp Thr Ala Phe Leu Ile Tyr Pro Phe Asn Asp Thr Ile  
   245                250                  255  
 Tyr Glu Val Ser Ser Lys Gly Ala Gln Pro Phe Tyr Thr Ile Asp Phe  
   260                265                  270  
 Thr Gln Arg Asn Leu Pro Asp Asp Ile Glu Pro Ile Asn Asn Ser Phe  
   275                280                  285  
 Arg Leu Ala Val Ala Lys Gly Asn Phe Val Lys Gly Leu Ser Tyr Met  
   290                295                  300  
 Gln Met Ser Gly Asn Tyr Ile Leu Gly Arg Tyr Ala Asp Lys Gly Tyr  
   305                310                  315                  320  
 Phe Arg Tyr Leu Ser Val Asp Arg Ser Thr Leu Lys Ser Thr Val Gly  
   325                330                  335  
 Asn Ser Phe Val Val Arg Asp Leu Gly Tyr Leu Pro Val Thr Ser Phe  
   340                345                  350  
 Tyr Thr Ile Gly Asp Ala Leu Val Ser Val Tyr Ser Ala Ser Ala Leu  
   355                360                  365

Met Gln Met Leu Asp Val Ile Leu Ser Pro Asp Ser Pro Ile Lys Glu  
   370               375               380  
 Lys Tyr Arg Thr Lys Phe Ser Leu Lys Gln Ile Thr Asn Cys Glu  
   385               390               395               400  
 Gly Asn Pro Val Leu Leu Lys Phe Gln Phe Glu Ser Ala Glu  
   405               410

&lt;210&gt; 6571

&lt;211&gt; 265

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6571

Asp Ser Ser Ile Arg Leu Ser Ile Ser Ser Phe Phe Val Ala Leu Leu  
   1               5               10               15  
 Pro Glu Arg Lys Val Arg Ala Met Leu Gln Lys Thr Val Gly Ile Val  
   20               25               30  
 Leu His Val Leu Lys Tyr Asn Asp Thr Ser Asn Ile Val Glu Met Tyr  
   35               40               45  
 Thr Glu Leu Ser Gly Arg Ala Ser Phe Leu Val Thr Val Pro Arg Ser  
   50               55               60  
 Lys Lys Ala Thr Val Lys Ser Val Leu Phe Gln Pro Leu Ala Leu Ile  
   65               70               75               80  
 Glu Phe Glu Ala Asp Tyr Arg Pro Asn Thr Ser Leu Phe Arg Ile Lys  
   85               90               95  
 Glu Ala Lys Ser Phe Ser Pro Phe Thr Ser Ile Pro Tyr Asp Pro Phe  
   100              105              110  
 Lys Ser Ala Ile Ala Leu Phe Leu Ala Glu Phe Leu Tyr Arg Ala Ile  
   115              120              125  
 Arg Glu Glu Ala Glu Asn Arg Pro Leu Phe Ala Tyr Leu Gln His Ser  
   130              135              140  
 Ile Leu Trp Leu Asp Thr Cys Lys Ile Ser Phe Ala Asn Phe His Leu  
   145              150              155              160  
 Val Phe Leu Met Arg Leu Ser Arg Phe Leu Gly Leu Tyr Pro Asn Leu  
   165              170              175  
 Asp Asp Tyr His Ala Gly Asp Tyr Phe Asp Met Leu Asn Ala Thr Phe  
   180              185              190  
 Thr Ser Val Arg Pro Gln Leu His Ser Ser Tyr Ile Gln Pro Asp Glu  
   195              200              205  
 Ala Gly Arg Leu Leu Gln Leu Met Arg Met Asn Tyr Glu Thr Met His  
   210              215              220  
 Leu Phe Gly Met Asn Arg Thr Glu Arg Ala Arg Cys Leu Ala Ile Ile  
   225              230              235              240  
 Asn Glu Tyr Tyr Arg Leu His Leu Pro Asp Phe Pro Ile Leu Lys Ser  
   245              250              255  
 Leu Asp Val Leu Lys Glu Leu Phe Asp  
   260              265

&lt;210&gt; 6572

&lt;211&gt; 171

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6572

Lys Pro Lys Ile Leu Met Ser Ile Asn Tyr Ala Val Thr Lys Lys Val  
   1               5               10               15  
 Asp Lys Ser Lys Gly Ile Ala Lys Glu Arg Tyr Tyr Ala Thr Thr Arg  
   20               25               30  
 Ala Leu Gln Lys Lys Pro Val Asn Ser Val Gln Ile Ala Asn Gln Leu

35	40	45
Ala Glu Arg Ser Ser Leu Gln Asn Gly Asp Val	Leu Ser Ala Leu Thr	
50	55	60
Gln Leu Ser Asp Ile Ile Ala Ala His	Leu Lys Glu Gly Arg Thr Val	
65	70	75
Ser Ile Asp Gly Leu Gly Asn Phe Tyr Pro	Ser Ile Thr Ser Glu Ala	
85	90	95
Val Asp Lys Pro Glu Glu Cys Thr Ala Asn Lys	Val Trp Val Ser Arg	
100	105	110
Ile Cys Phe Lys Ala Ala Pro Ala Phe	Leu Asn Val Arg Lys Thr	
115	120	125
Asp Phe Val Ser Leu Gln Leu Lys Tyr Gly Arg	Lys Ser Thr Lys Ser	
130	135	140
Gln Asn Gly Ser Asp Lys Glu Thr Thr Asp	Val Ile Pro His Gln Gln	
145	150	155
Ser Ile Ser Glu Asp Ser Ser Leu Ser Asp Glu		
165	170	

&lt;210&gt; 6573

&lt;211&gt; 352

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6573

Lys Asn Arg Met Leu Ile Met Ser Ala Ser Phe	Asn Leu Leu Asp Arg		
1	5	10	15
Lys Arg Leu Lys Gly Leu Leu Leu Phe	Cys Pro Val Trp Val Leu Leu		
20	25	30	
Phe Trp Gly Cys Gly Arg Thr Val	Glu Ser Pro Glu Lys Val Leu Lys		
35	40	45	
Cys Glu Leu Val Ser Tyr Ile Lys Ser Tyr	Pro Asp Ser Ser Phe Phe		
50	55	60	
Ser Gln Val Gly Thr Met Gln Tyr Gln Asp	Gly Lys Ile Tyr Leu Leu		
65	70	75	80
Asp Glu Ala Arg Arg Asp Val Ala Val	Met Asp Leu Glu Phe Ser Asp		
85	90	95	
Phe Ser Leu Ile Gly Lys Pro Gly Asp	Gly Pro Gly Glu Leu Val Arg		
100	105	110	
Pro Val Gly Phe Tyr Val Glu Lys Asp	Thr Val Tyr Ile Leu Asp Gly		
115	120	125	
Gly Thr Val Asn Val Lys Arg Tyr Phe Asp	Ser Glu Phe Ile Ser Ser		
130	135	140	
Phe Ser Val Pro Ala Ala Asn Asp Tyr Arg	Phe Phe Met Asn Lys Asp		
145	150	155	160
Thr Ile Phe Leu Ser Ala Val Thr Asp	Ser Thr Phe Tyr Thr Lys Ser		
165	170	175	
Ala Glu Ser Trp Gln Arg Gly Asp	Leu Phe Thr Leu Val Leu Ala Gly		
180	185	190	
Asn Val His Asp Phe Gly Asn Ala Arg Arg	Asn Met Val Leu Asn Gln		
195	200	205	
Arg His Leu Val Lys Asp Ser Thr Ser	Leu Tyr Gly Ile Thr Ser Ser		
210	215	220	
Ser Ser Leu Leu Gly Lys Tyr Asp	Leu Ser Ser Asn Lys Gln Val Ala		
225	230	235	240
Thr Phe Asp Leu Ser Ser Val	Leu Ser Ile Lys Asp Asn Leu Thr Tyr		
245	250	255	
Glu Gly Ser Gln Pro Tyr Asp Pro	Lys Ser Tyr Tyr Thr Phe Ile Ser		
260	265	270	
Asp Ala Tyr Ala Met Asn Gly Tyr	Leu Tyr Leu Leu Cys Ser Glu Leu		

275	280	285
Lys Asp Arg Asp Lys Gly Gly	Phe Arg Val Asn Lys	Ile Leu Cys Leu
290	295	300
Lys Thr Glu Pro Glu Leu Gln	Leu Asp Val Ile Tyr Ala	Leu Pro Gly
305	310	315
Glu Ile Tyr Thr Ser Phe Cys	Val Thr Pro Asp Tyr Ile	Phe Ala Thr
325	330	335
Asn Tyr Ser Asn Glu Arg Ile	Glu Lys Leu Ala Leu	Pro Val Ser Asp
340	345	350

&lt;210&gt; 6574

&lt;211&gt; 160

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6574

Gly Glu Met Ile Arg Phe Leu Gly Asn Ile Glu Ala Lys Ala Asp Ala			
1	5	10	15
Lys Gly Arg Val Phe Ile Pro Ala Gln Phe Arg Arg Gln Leu Gln Ser			
20	25	30	
Gly Ser Glu Asp Lys Leu Ile Met Arg Lys Asp Val Phe Gln Asp Cys			
35	40	45	
Leu Val Leu Tyr Pro Glu Glu Val Trp Asn Glu Glu Leu Asp Glu Leu			
50	55	60	
Arg Gln Arg Leu Asn Lys Trp Asn Ala Asn His Gln Leu Ile Phe Arg			
65	70	75	80
Gln Phe Val Ser Asp Val Glu Ile Ile Thr Met Asp Gly Asn Gly Arg			
85	90	95	
Ile Leu Ile Pro Lys Arg Tyr Leu Gln Ile Thr Gly Ile Gln Ser Asp			
100	105	110	
Val Arg Phe Ile Gly Val Asp Asn Lys Ile Glu Ile Trp Ala Lys Glu			
115	120	125	
Arg Ala Glu Lys Leu Phe Met Glu Pro Glu Ala Phe Gly Ala Ala Leu			
130	135	140	
Glu Glu Ile Met Lys Glu Glu Arg Arg Thr Thr Asn Asn Glu Leu Lys			
145	150	155	160

&lt;210&gt; 6575

&lt;211&gt; 708

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6575

Lys Met Ala Val Asn Lys Asn Ile Met Thr Arg Tyr Phe Phe Val			
1	5	10	15
Ile Leu Leu Met Gly Leu Ile Gly Val Ala Ile Val Val Lys Ala Gly			
20	25	30	
Ile Thr Met Phe Ala Glu Arg Gln Tyr Trp Gln Asp Val Ala Asp Arg			
35	40	45	
Phe Val Lys Glu Asn Val Thr Val Lys Pro Asn Arg Gly Asn Ile Ile			
50	55	60	
Ser Ser Asp Gly Lys Leu Met Ala Ser Ser Leu Pro Glu Tyr Arg Ile			
65	70	75	80
Tyr Met Asp Phe Lys Ala Gly Gly Val Lys Lys Asp Thr Met Leu Met			
85	90	95	
Asn His Leu Asp Glu Ile Cys Glu Gly Leu His Lys Ile Phe Pro Asp			
100	105	110	
Lys Ser Ala Ser Glu Phe Lys Thr His Leu Lys Lys Gly Arg Lys Gln			
115	120	125	

Gly Ser Arg Asn Tyr Leu Ile Tyr Pro Lys Arg Ile Ser Tyr Ile Gln  
 130 135 140  
 Tyr Lys Glu Ala Lys Arg Leu Pro Val Phe Asn Leu Asn Lys Tyr Lys  
 145 150 155 160  
 Gly Gly Phe His Glu Leu Ala Tyr Asn Gln Arg Lys Lys Pro Phe Gly  
 165 170 175  
 Ser Leu Ala Ala Arg Thr Leu Gly Asp Leu Tyr Ala Asp Thr Ala Gln  
 180 185 190  
 Gly Ala Lys Asn Gly Ile Glu Leu Ala Phe Asp Ser Ile Leu Lys Gly  
 195 200 205  
 His Asp Gly Ile Thr His Arg Gln Lys Val Met Asn Lys Tyr Leu Asn  
 210 215 220  
 Ile Val Asp Ile Pro Pro Val Asp Gly Cys Asp Leu Leu Ser Thr Ile  
 225 230 235 240  
 Asp Val Gly Met Gln Asp Ile Cys Glu Lys Ala Leu Thr Asp Lys Leu  
 245 250 255  
 Lys Glu Leu Asn Ala Ser Val Gly Val Ala Val Leu Met Glu Val Ala  
 260 265 270  
 Thr Gly Glu Val Lys Ala Ile Val Asn Met Thr Lys Ala Gly Asp Gly  
 275 280 285  
 Asn Tyr Tyr Glu Met Arg Asn Asn Ala Ile Ser Asp Met Leu Glu Pro  
 290 295 300  
 Gly Ser Thr Phe Lys Thr Ala Ser Ile Met Val Ala Leu Glu Asp Gly  
 305 310 315 320  
 Lys Ile Thr Pro Glu Asp Gly Ile Asp Thr Gly Asn Gly Ile Lys Met  
 325 330 335  
 Met His Gly Arg Pro Met Lys Asp Trp Asn Trp Tyr Lys Gly Gly Tyr  
 340 345 350  
 Gly Tyr Leu Thr Val Thr Gln Ile Leu Glu Val Ser Ser Asn Ile Gly  
 355 360 365  
 Thr Ser Ser Ile Ile Glu Lys Tyr Tyr Gly Ser Asn Pro Gln Lys Phe  
 370 375 380  
 Val Asp Gly Leu Lys Arg Met Ser Ile Asp Gln Pro Leu Gln Leu Gln  
 385 390 395 400  
 Ile Ala Gly Glu Gly Lys Pro Asn Ile Lys Gly Pro Lys Glu Arg Tyr  
 405 410 415  
 Phe Ala Lys Thr Thr Leu Pro Trp Met Ser Ile Gly Tyr Glu Thr Gln  
 420 425 430  
 Val Pro Pro Met Asn Ile Leu Thr Phe Tyr Asn Ala Ile Ala Asn Asn  
 435 440 445  
 Gly Val Met Val Arg Pro Lys Phe Val Lys Ala Ala Ile Lys Asn Gly  
 450 455 460  
 Glu Ile Val Lys Glu Tyr Pro Thr Glu Ile Ile Asn Pro Lys Ile Cys  
 465 470 475 480  
 Ser Glu Arg Thr Leu Lys Gln Ile Gln Glu Ile Leu Tyr Lys Val Val  
 485 490 495  
 His Glu Gly Leu Ala Ala Pro Ala Gly Ser Lys Gln Phe Ala Val Ser  
 500 505 510  
 Gly Lys Thr Gly Thr Ala Gln Ile Ser Gln Gly Ala Ala Gly Tyr Lys  
 515 520 525  
 Ser Gly Arg Val Asn Tyr Leu Val Ser Phe Cys Gly Tyr Phe Pro Ser  
 530 535 540  
 Glu Ala Pro Lys Tyr Ser Cys Ile Val Ser Ile Gln Lys Pro Gly Leu  
 545 550 555 560  
 Pro Ala Ser Gly Gly Leu Met Ala Gly Ser Val Phe Ser Lys Ile Ala  
 565 570 575  
 Glu Arg Val Tyr Ala Lys Asp Leu Arg Leu Asp Ile Arg Asn Ala Ile  
 580 585 590  
 Asp Thr Asn Thr Val Val Ile Pro Asp Val Lys Ala Gly Glu Met Ile

595	600	605
Glu Ala Arg Gln Val Leu Glu	Gly Leu Asn Ile Gln Thr Gln Ala Glu	
610	615	620
Phe Lys Ala Lys Lys Asn Lys Glu Val Trp	Gly His Ala Gln Ala Ala	
625	630	635
640		
Pro Lys Ala Val Ile Leu Gln Gly Lys Glu	Gln Leu Arg Asn Phe Val	
645	650	655
Pro Ser Val Ile Gly Met Gly Ala Lys Asp	Ala Val Tyr Leu Leu Glu	
660	665	670
Ser Lys Gly Leu Lys Val Thr Leu Ser Gly Val	Gly Lys Val Lys Ser	
675	680	685
Gln Ser Leu Pro Gln Gly Thr Thr Ile Lys Lys	Gly Gln Thr Ile Ser	
690	695	700
Ile His Leu Asn		
705		

&lt;210&gt; 6576

&lt;211&gt; 376

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6576

Ala Pro Asp Val Ile Gln Ser Lys Ser Val Asn Arg	Leu Thr Val Asn	
1	5	10
15		
Lys Val Met Leu Tyr Tyr Leu Phe Glu Trp	Leu His Lys Leu Asn Phe	
20	25	30
30		
Pro Gly Ala Gly Met Phe Gly Tyr Thr Ser Phe Arg	Ala Leu Met Ala	
35	40	45
45		
Ile Ile Leu Ala Leu Ile Ser Ser Ile Trp	Gly Asp Lys Phe Ile	
50	55	60
60		
Asn Leu Leu Lys Arg Lys Gln Ile Thr Glu Thr Gln	Arg Asp Ala Lys	
65	70	75
80		
Ile Asp Pro Phe Gly Val Asn Lys Val Gly Val	Pro Ser Met Gly Gly	
85	90	95
95		
Val Ile Ile Val Ala Ile Leu Ile Pro Cys	Leu Leu Gly Lys	
100	105	110
110		
Leu His Asn Ile Tyr Met Ile Leu Met Leu Ile	Thr Thr Val Trp Leu	
115	120	125
125		
Gly Ser Leu Gly Phe Ala Asp Asp Tyr Ile Lys	Ile Phe Lys Lys Asp	
130	135	140
140		
Lys Glu Gly Leu His Gly Lys Phe Lys Ile Ile	Gly Gln Val Gly Leu	
145	150	155
160		
Gly Leu Ile Val Gly Leu Thr Leu Tyr Leu Ser	Pro Asp Val Val Ile	
165	170	175
175		
Arg Glu Asn Ile Glu Val Gln Lys Ser Glu Asn	Glu Ile Glu Val Ile	
180	185	190
190		
His Gly Thr His Asp Leu Lys Ser Thr Gln Thr	Thr Ile Pro Val Phe	
195	200	205
205		
Lys Ser Asn Asn Leu Glu Tyr Ala Asp Leu Val	Gly Phe Met Gly Glu	
210	215	220
220		
His Ala Gln Thr Ala Gly Trp Ile Leu Phe Val	Ile Ile Thr Ile Phe	
225	230	235
240		
Val Val Thr Ala Val Ser Asn Gly Ala Asn Leu	Asn Asp Gly Met Asp	
245	250	255
255		
Gly Met Ala Ala Gly Asn Ser Ala Ile Ile	Gly Leu Thr Leu Gly Ile	
260	265	270
270		
Leu Ala Tyr Val Ser Ser His Ile Glu Phe Ala	Gly Tyr Leu Asn Ile	
275	280	285
285		
Met Tyr Ile Pro Gly Ser Glu Glu Leu Val Ile	Phe Ile Cys Ala Phe	

290	295	300
Ile Gly Ala Leu Ile Gly Phe Leu Trp Tyr Asn Ala Tyr Pro Ala Gln		
305	310	315
Val Phe Met Gly Asp Thr Gly Ser Leu Thr Ile Gly Gly Ile Ile Ala		320
325	330	335
Val Phe Ala Ile Ile His Lys Glu Leu Leu Ile Pro Ile Leu Cys		
340	345	350
Gly Ile Phe Leu Val Glu Asn Arg His Ala Ile Gly Ile Thr Ser Ile		
355	360	365
Ile Lys Pro Glu Lys Glu Arg Val		
370	375	

&lt;210&gt; 6577

<211> 89  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6577

Asn Arg Leu Val Glu Met Ala Asn His Lys Ser Ser Ile Lys Arg Ile		
1	5	10
Arg Gln Glu Glu Thr Arg Arg Leu Arg Asn Arg Tyr Tyr Gly Lys Thr		
20	25	30
Met Arg Asn Ala Val Arg Lys Leu Arg Ser Thr Thr Asp Lys Ala Glu		
35	40	45
Ala Thr Ala Met Tyr Pro Gly Ile Val Lys Met Val Asp Lys Leu Ala		
50	55	60
Lys Thr Asn Val Ile His Lys Asn Lys Ala Asn Asn Leu Lys Ser Lys		
65	70	75
Leu Ala Ile Tyr Ile Asn Lys Leu Ala		80
85		

&lt;210&gt; 6578

<211> 286  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6578

Lys Arg Thr Val Asn Phe Ala Gln Ser Phe His Leu Lys Arg Met Ala		
1	5	10
Asp Asp Ser Leu Phe Leu Ile Asp Ile Asp Lys Ile Leu Gln Thr Lys		
20	25	30
Ala Pro Lys His Tyr Lys Tyr Ile Pro Lys Phe Val Val Ser Tyr Leu		
35	40	45
Lys Arg Ile Val His Gln Glu Glu Leu Asn Val Phe Leu Arg Asp Ser		
50	55	60
Lys Asp Lys Val Gly Val Asp Phe Leu Gly Ala Cys Leu Glu Phe Leu		
65	70	75
Asp Ala Lys Leu Glu Val Lys Gly Leu Glu Asn Ile Pro Lys Asp Gly		
85	90	95
Leu Tyr Thr Phe Val Ser Asn His Pro Leu Gly Gly Gln Asp Gly Val		
100	105	110
Ser Leu Gly Tyr Ile Leu Gly Arg His Phe Asp Gly Lys Val Lys Tyr		
115	120	125
Leu Val Asn Asp Leu Leu Met Asn Leu His Gly Leu Ala Pro Leu Cys		
130	135	140
Ile Pro Ile Asn Lys Thr Gly Lys Gln Ala Lys Asp Phe Pro Lys Met		
145	150	155
Val Glu Ala Gly Phe Lys Ser Asp Asp Gln Leu Ile Met Phe Pro Ala		
165	170	175

Gly Leu Cys Ser Arg Arg Gln Asn Gly Val Ile Arg Asp Leu Asp Trp  
           180                       185                       190  
 Lys Lys Thr Phe Ile Val Lys Ser Val Gln Phe Gln Arg Asp Val Ile  
           195                       200                       205  
 Pro Val His Phe Glu Gly Arg Asn Ser Asp Phe Phe Tyr Asn Leu Ala  
           210                       215                       220  
 Asn Leu Cys Lys Ala Leu Gly Ile Lys Phe Asn Ile Ala Met Leu Tyr  
           225                       230                       235                       240  
 Leu Ala Asp Glu Met Leu Lys Asn Arg His Lys Thr Phe Thr Val Thr  
           245                       250                       255  
 Phe Gly Lys Pro Ile Pro Trp Gln Thr Phe Asp Lys Ser Lys Thr Pro  
           260                       265                       270  
 Ala Glu Trp Ala Gln Tyr Val Lys Asp Ile Val Tyr Lys Leu  
           275                       280                       285

&lt;210&gt; 6579

&lt;211&gt; 71

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6579

Cys Phe His Ser Ser Gly Pro Val Phe Val Leu Arg Leu Phe Ser Val  
   1                       5                       10                       15  
 Leu Leu Val Pro Leu Pro Val Arg Val Thr Phe Pro Gly Val Thr Leu  
   20                       25                       30  
 Leu Leu Ser Arg Glu Ala Glu Leu Ser Leu Trp Asp Thr Pro Leu Leu  
   35                       40                       45  
 Thr Ser Ser Leu Arg Pro Glu Leu Glu Arg Met Val Thr Asp Pro Lys  
   50                       55                       60  
 Ser Glu Arg Arg Cys Val Leu  
   65                       70

&lt;210&gt; 6580

&lt;211&gt; 115

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6580

Gly Ser Gly Ser Phe Ser Pro Val Val Lys Thr Ala Glu Leu Asp Ser  
   1                       5                       10                       15  
 Thr Thr Val Val Arg Phe Asn Gln Met Gln Phe His Pro Tyr Leu Lys  
   20                       25                       30  
 Ala Glu Lys Lys Gln Gln Trp His Phe Thr Ala Ala Val Asp Lys  
   35                       40                       45  
 Pro Trp Phe Pro Ala Asp Gln Leu Phe Gly Ser Leu Pro Lys Gly Leu  
   50                       55                       60  
 Phe Ser Asn Leu Glu Gly Ile Lys Thr Ser Gly Glu Leu Ala Tyr His  
   65                       70                       75                       80  
 Phe Phe Leu Asp Ala Asn Phe Ala Leu Leu Asn Ser Leu Lys Met Glu  
   85                       90                       95  
 Ile Glu Pro Glu Gly Lys Glu Phe Pro His Gly Lys Leu Arg Gly His  
   100                      105                       110  
 Lys Ser Gly  
   115

&lt;210&gt; 6581

&lt;211&gt; 281

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6581

Arg Val Lys Ser Pro Val Pro Leu Leu Asn Pro Gly Gly Tyr Gln Thr  
 1 5 10 15  
 Asn Arg Val Gly Leu Leu Phe Leu Leu His Asn Lys Ile Thr Tyr Lys  
 20 25 30  
 Ile Ser Ala Leu Met Lys Met Ala Leu Ser Asp Phe Ala Leu Arg Lys  
 35 40 45  
 Lys Gly Ile Tyr Gly Ile Leu His Val Ile Ile Leu Leu Ser Leu  
 50 55 60  
 Phe Leu Val Ile Ser Ile Ser Ile Asp Thr Phe Lys Gly Ile Pro Phe  
 65 70 75 80  
 Tyr Thr Gln Ser Val Tyr Met Lys Val Gln Leu Trp Ile Cys Val Leu  
 85 90 95  
 Phe Leu Phe Asp Phe Ile Leu Glu Leu Phe Leu Ser Lys Asn Lys Trp  
 100 105 110  
 His Tyr Leu Ser Thr His Phe Ile Phe Leu Leu Val Ala Ile Pro Tyr  
 115 120 125  
 Gln Asn Ile Ile Ser Tyr Met Gly Trp Thr Phe Ser Pro Glu Val Thr  
 130 135 140  
 Tyr Met Ile Arg Phe Val Pro Leu Val Arg Gly Gly Tyr Ala Met Ala  
 145 150 155 160  
 Ile Val Val Gly Trp Leu Thr Tyr Asn Lys Ala Ser Gly Leu Phe Val  
 165 170 175  
 Ser Tyr Leu Thr Met Leu Leu Ala Thr Val Tyr Phe Ser Ser Leu Ala  
 180 185 190  
 Phe Phe Val Leu Glu His Lys Val Asn Pro Leu Val Thr Gly Tyr Gly  
 195 200 205  
 Asp Ala Leu Trp Trp Ala Phe Met Asp Val Thr Thr Val Gly Ser Asn  
 210 215 220  
 Ile Ile Ala Val Thr Val Thr Gly Arg Val Leu Ser Val Leu Leu Ala  
 225 230 235 240  
 Ala Leu Gly Met Met Phe Pro Ile Phe Thr Val Tyr Val Thr Ser  
 245 250 255  
 Leu Ile Gln Lys Lys Asn Lys Glu Lys Glu Glu Tyr Tyr Lys Gln Leu  
 260 265 270  
 Glu Ala Ala Asp Glu Ser Lys Pro Lys  
 275 280

&lt;210&gt; 6582

<211> 325  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 6582

Gln Leu Leu Pro Leu Asp Trp Glu Ile Arg Cys Lys Asp Arg Phe Leu  
 1 5 10 15  
 Pro Val Gly Cys Asn Ala Ser Cys Ile Phe Leu Leu Ser Ser Phe Arg  
 20 25 30  
 Leu Ile Ala Ile Leu Phe Val Leu Leu His Pro Lys Ile Arg Arg Met  
 35 40 45  
 Asn His Val Thr Thr Tyr Ile Arg Gln Ala Leu His Asp Ile Tyr Pro  
 50 55 60  
 Pro Gly Glu Leu Arg Ser Leu Thr Lys Ile Ile Cys Cys Asp Leu Leu  
 65 70 75 80  
 Gly Gln Asp Ala Ile Asp Tyr Tyr Leu Gly Lys Asp Ile Thr Leu Ser  
 85 90 95  
 Ala Asn Glu Gln Cys Asp Leu Glu Ser Ile Val Glu Arg Leu Lys Lys  
 100 105 110

Asn Glu Pro Ile Gln Tyr Ile Gln Gly Glu Thr Cys Phe Tyr Gly Ser  
 115 120 125  
 Met Phe Arg Val Ala Pro Gly Val Leu Ile Pro Arg Pro Glu Thr Glu  
 130 135 140  
 Glu Leu Val Asp Leu Val Val Lys Glu Ala Ala Thr Gly Thr Arg Leu  
 145 150 155 160  
 Leu Asp Ile Gly Thr Gly Ser Gly Cys Ile Ala Ile Ser Leu Ala Lys  
 165 170 175  
 His Ile Pro Gln Ala Val Val Thr Ala Trp Asp Val Ser Glu Glu Ala  
 180 185 190  
 Leu Ala Ile Ala Gly Glu Asn Asn Arg Glu Leu Lys Ala Gly Val His  
 195 200 205  
 Phe Glu Lys Met Asp Val Leu Ser Ala Glu Pro Val Gly Asp Asp Gln  
 210 215 220  
 Tyr Asp Met Ile Val Ser Asn Pro Pro Tyr Val Thr Glu Ser Glu Lys  
 225 230 235 240  
 Asn Glu Met Glu Pro Asn Val Leu Asp Trp Glu Pro Arg Leu Ala Leu  
 245 250 255  
 Phe Val Pro Asp Asn Asp Pro Leu Arg Phe Tyr Arg Arg Ile Ala Ser  
 260 265 270  
 Leu Gly Arg Lys Met Leu Arg Leu His Gly Arg Leu Tyr Phe Glu Ile  
 275 280 285  
 Asn Arg Ala Tyr Gly Glu Glu Val Leu Gln Met Leu His Glu Gln Gly  
 290 295 300  
 Tyr Glu Glu Leu Arg Leu Ile Lys Asp Ile Ser Gly Asn Asp Arg Ile  
 305 310 315 320  
 Val Thr Ala Lys Arg  
 325

&lt;210&gt; 6583

&lt;211&gt; 191

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6583

Ser Leu Asn Thr Lys Ile Asp Met Asp Asp Gln Ile Lys Gln Ile Ala  
 1 5 10 15  
 Glu Arg Leu Arg Gly Leu Arg Asp Val Leu Glu Leu Thr Ala Glu Asp  
 20 25 30  
 Ile Ala Arg Asp Cys Glu Ile Ser Ala Glu Glu Tyr Arg Leu Ala Glu  
 35 40 45  
 Thr Gly Asp Tyr Asp Ile Ser Val Ser Met Leu Gln Lys Ile Ala Arg  
 50 55 60  
 Lys Tyr Gly Ile Ala Leu Asp Ala Leu Met Phe Gly Glu Glu Pro Lys  
 65 70 75 80  
 Met Ser Ser Tyr Phe Leu Thr Arg Ala Gly Lys Gly Thr Ser Ile Glu  
 85 90 95  
 Arg Thr Lys Ala Tyr Lys Tyr Gln Ser Leu Ala Ala Gly Phe Met Asn  
 100 105 110  
 Arg Asn Ala Asp Pro Phe Ile Val Thr Val Glu Pro Lys Pro Asp Ile  
 115 120 125  
 Glu Pro Ile His Tyr Asn Ser His Ser Gly Gln Glu Phe Asn Leu Val  
 130 135 140  
 Leu Glu Gly Arg Met Met Ile Ser Ile Asp Gly Lys Asp Leu Ile Leu  
 145 150 155 160  
 Asn Glu Gly Asp Ser Leu Tyr Phe Asn Ser Lys Leu Pro His Gly Met  
 165 170 175  
 Lys Ala Leu Asp Gly Lys Thr Val Arg Phe Leu Ala Val Ile Met  
 180 185 190

<210> 6584  
<211> 62  
<212> PRT  
<213> B.fragilis

<220>  
<221> UNSURE  
<222> (56),(57),(58)  
<223> Identity of amino acid sequences at the above locations are unknown.

<400> 6584  
Tyr Gly Val Thr Val Val Pro Thr Lys Tyr Gly Ala Asp Asp Ser Ile  
1               5               10               15  
Asn Leu Val Leu Lys Asp Arg Thr Thr Asn Glu Met Ser Tyr Lys  
20               25               30  
Glu Gln Ile Asp Leu Asn Arg Ile Pro Lys His Val Val Thr Ala  
35               40               45  
Glu Cys Asn Ala Cys Ser Ile Xaa Xaa Xaa Pro Ala Ser Pro  
50               55               60

<210> 6585  
<211> 308  
<212> PRT  
<213> B.fragilis

<400> 6585  
Gln Ala Asp Ala Ala Ile Cys Phe Ser Ala Ala Asn His Ser Tyr Val  
1               5               10               15  
Cys Phe Leu Phe Ile Phe Ala Val Asn Arg Met Lys Ile Met Ser Ile  
20               25               30  
Glu Leu Gly Lys Phe Asn Gln Leu Glu Val Val Lys Gln Val Asp Phe  
35               40               45  
Gly Met Tyr Leu Asp Gly Gly Glu Glu Gly Glu Ile Leu Leu Pro Thr  
50               55               60  
Arg Tyr Val Pro Glu Asp Cys Lys Leu Gly Asp Trp Leu Asn Val Phe  
65               70               75               80  
Leu Tyr Leu Asp Asn Glu Glu Arg Leu Ile Ala Thr Thr Leu Thr Pro  
85               90               95  
Leu Val Gln Val Gly Glu Phe Ala Cys Leu Glu Val Ser Trp Val Asn  
100              105              110  
Gln Phe Gly Ala Phe Leu Asn Trp Gly Leu Met Lys Asp Leu Phe Val  
115              120              125  
Pro Phe Ser Glu Gln Lys Met Lys Met Gln Val Gly Asn Lys Tyr Val  
130              135              140  
Ile His Ala His Ile Asp Asp Glu Ser Phe Arg Ile Val Ala Ser Ala  
145              150              155              160  
Lys Val Asp Arg Tyr Leu Ser Lys Glu Lys Ala Ser Tyr Gln Pro Gly  
165              170              175  
Glu Glu Val Asn Ile Leu Ile Trp Gln Lys Thr Asp Leu Gly Phe Lys  
180              185              190  
Ala Ile Ile Glu Asn Met Tyr Ser Gly Leu Leu Tyr Asp Ser Glu Ile  
195              200              205  
Phe Gln Thr Leu His Thr Gly Asp Val Leu Lys Ala Tyr Val Lys Gln  
210              215              220  
Val Arg Glu Asp Gly Lys Ile Asp Leu Ile Leu Gln Lys Pro Gly Phe  
225              230              235              240  
Glu Lys Ile Asp Asp Phe Ser Lys Thr Leu His Arg Tyr Ile Thr Glu  
245              250              255

His Gly Gly Trp Ile Gly Leu Thr Asp Lys Ser Pro Ala Glu Glu Ile  
 260 265 270  
 Tyr Asp Thr Phe Gly Val Ser Lys Lys Thr Phe Lys Lys Ala Val Gly  
 275 280 285  
 Asp Leu Tyr Lys Lys Arg Leu Ile Leu Leu His Glu Asp Gly Ile Glu  
 290 295 300  
 Leu Val Arg Pro  
 305

<210> 6586

<211> 70

<212> PRT

<213> B.fragilis

<400> 6586

Ser Cys Pro Ala Ala Asp Tyr Pro His Arg Cys Arg Val Ile Phe Thr  
 1 5 10 15  
 Trp Asn Gly Lys Gln Tyr Ala Ala Tyr Thr Phe Val Phe His Ser His  
 20 25 30  
 Phe Asp Arg Cys Gly Phe Gln Glu Ala Phe Asp Thr Cys Tyr Phe Pro  
 35 40 45  
 Trp Thr Ala Arg Glu His Phe Asn Leu Arg Asn Leu Ser Ala Tyr Tyr  
 50 55 60  
 His Leu Leu Leu Ile Val  
 65 70

<210> 6587

<211> 457

<212> PRT

<213> B.fragilis

<400> 6587

Tyr Val Ile Tyr Asp Thr Ile Leu Ile Ala Met Ala Gln Lys Leu Trp  
 1 5 10 15  
 Glu Lys Ser Val Glu Val Asn Lys Asp Ile Glu Arg Phe Thr Val Gly  
 20 25 30  
 Arg Asp Arg Glu Met Asp Leu Tyr Leu Ala Lys His Asp Val Leu Gly  
 35 40 45  
 Ser Met Ala His Ile Thr Met Leu Glu Ser Ile Gly Leu Leu Thr Lys  
 50 55 60  
 Glu Glu Leu Ala Gln Leu Leu Thr Glu Leu Lys Asp Ile Tyr Ala Ser  
 65 70 75 80  
 Ala Glu Arg Gly Glu Phe Val Ile Glu Glu Gly Val Glu Asp Val His  
 85 90 95  
 Ser Gln Val Glu Leu Met Leu Thr Arg Arg Leu Gly Asp Val Gly Lys  
 100 105 110  
 Lys Ile His Ser Gly Arg Ser Arg Asn Asp Gln Val Leu Leu Asp Leu  
 115 120 125  
 Lys Leu Phe Thr Arg Thr Gln Ile Arg Glu Val Ala Glu Ala Val Glu  
 130 135 140  
 Gln Leu Phe His Val Leu Ile Arg Gln Ser Glu Arg Tyr Lys Asn Val  
 145 150 155 160  
 Leu Met Pro Gly Tyr Thr His Leu Gln Ile Ala Met Pro Ser Ser Phe  
 165 170 175  
 Gly Leu Trp Phe Gly Ala Tyr Ala Glu Ser Leu Val Asp Asp Met Leu  
 180 185 190  
 Phe Leu Gln Ala Ala Phe Lys Met Cys Asn Lys Asn Pro Leu Gly Ser  
 195 200 205  
 Ala Ala Gly Tyr Gly Ser Ser Phe Pro Leu Asn Arg Thr Met Thr Thr

210	215	220
Glu Leu Leu Gly Phe Asp Ser	Leu Asn Tyr Asn Val Val Tyr Ala Gln	
225	230	235 240
Met Gly Arg Gly Lys Met Glu Arg Asn Val Ala Phe Ala Leu Ala Thr		
245	250	255
Leu Ala Gly Thr Ile Ser Lys Leu Ala Phe Asp Ala Cys Met Phe Asn		
260	265	270
Ser Gln Asn Phe Gly Phe Val Lys Leu Pro Asp Glu Cys Thr Thr Gly		
275	280	285
Ser Ser Ile Met Pro His Lys Lys Asn Pro Asp Val Phe Glu Leu Thr		
290	295	300
Arg Ala Lys Cys Asn Lys Leu Gln Ser Leu Pro Gln Gln Ile Met Met		
305	310	315 320
Ile Ala Asn Asn Leu Pro Ser Gly Tyr Phe Arg Asp Leu Gln Ile Ile		
325	330	335
Lys Glu Val Phe Leu Pro Ala Phe Gln Glu Leu Lys Asp Cys Leu Gln		
340	345	350
Met Thr Thr Tyr Ile Met Asn Glu Ile Lys Val Asn Glu His Ile Leu		
355	360	365
Asp Asp Asp Lys Tyr Leu Phe Ile Phe Ser Val Glu Glu Val Asn Arg		
370	375	380
Leu Ala Arg Glu Gly Met Pro Phe Arg Asp Ala Tyr Lys Lys Val Gly		
385	390	395 400
Leu Asp Ile Glu Ala Gly His Phe Ser His Asp Lys Gln Val His His		
405	410	415
Thr His Glu Gly Ser Ile Gly Asn Leu Cys Asn Asp Glu Ile Ser Ala		
420	425	430
Leu Met Gln Arg Thr Ile Glu Gly Phe Asn Phe Gln Gly Met Glu Gln		
435	440	445
Ala Glu Lys Thr Leu Leu Gly Arg Lys		
450	455	

<210> 6588

<211> 161

<212> PRT

<213> B.fragilis

<400> 6588

```

Ser Asn Cys Asn Arg Gln Thr Met Asn Thr Ile Thr Glu Glu Glu Ala
1 5 10 15
Leu Asn Arg Met Ala Ala Tyr Cys Ser Ala Ala Glu His Cys Lys Ala
20 25 30
Glu Val Asn Glu Lys Leu Gln Lys Trp Gly Leu Pro Tyr Glu Val Ile
35 40 45
Asn Arg Ile Ile Asp Arg Leu Val Val Glu Lys Phe Ile Asp Glu Glu
50 55 60
Arg Tyr Cys Arg Ala Phe Val Asn Asp Lys Phe Arg Phe Ala Lys Trp
65 70 75 80
Gly Lys Met Lys Ile Thr Gln Ala Leu Tyr Met Lys Lys Ile Pro Arg
85 90 95
Glu Val Thr Tyr Arg Tyr Leu Asn Asp Ile Asp Arg Glu Glu Tyr Leu
100 105 110
Ala Ile Leu Gly Asp Leu Ile Ala Ala Lys Arg Lys Ser Ile His Ala
115 120 125
Lys Asp Glu Phe Glu Leu Asn Gly Lys Leu Ile Arg Phe Ala Met Ser
130 135 140
Arg Gly Phe Glu Met Asp Asp Ile Arg Arg Cys Val Gln Val Glu Glu
145 150 155 160
Glu

```

<210> 6589  
<211> 415  
<212> PRT  
<213> B.fragilis

<400> 6589

Lys	Lys	Asn	Lys	Lys	Glu	Ile	Thr	Phe	Lys	Ile	Tyr	Ser	Thr	Met	Glu
1					5				10					15	
Gln	Lys	Lys	Lys	Val	Val	Val	Ala	Phe	Ser	Gly	Gly	Leu	Asp	Thr	Ser
				20					25			30			
Phe	Thr	Val	Met	Tyr	Leu	Ala	Lys	Glu	Lys	Gly	Tyr	Glu	Val	Tyr	Ala
			35					40			45				
Ala	Cys	Ala	Asn	Thr	Gly	Gly	Phe	Ser	Glu	Glu	Gln	Leu	Lys	Gln	Asn
			50					55			60				
Glu	Glu	Asn	Ala	Tyr	Lys	Leu	Gly	Ala	Val	Lys	Tyr	Val	Thr	Leu	Asp
			65			70				75			80		
Val	Thr	Gln	Glu	Tyr	Tyr	Glu	Lys	Ser	Leu	Lys	Tyr	Met	Ile	Phe	Gly
			85					90			95				
Asn	Val	Leu	Arg	Asn	Gly	Thr	Tyr	Pro	Ile	Ser	Val	Ser	Ser	Glu	Arg
			100					105			110				
Ile	Phe	Gln	Ala	Leu	Ala	Ile	Ala	Arg	Tyr	Ala	Lys	Glu	Ile	Gly	Ala
			115					120			125				
Glu	Ala	Ile	Ala	His	Gly	Ser	Thr	Gly	Ala	Gly	Asn	Asp	Gln	Ile	Arg
			130					135			140				
Phe	Asp	Met	Thr	Phe	Leu	Val	Met	Thr	Pro	Gly	Val	Glu	Ile	Ile	Thr
			145					150			155			160	
Leu	Thr	Arg	Asp	Met	Ala	Leu	Ser	Arg	Gln	Glu	Glu	Ile	Asp	Tyr	Leu
								165		170			175		
Asn	Lys	Asn	Gly	Phe	Glu	Ala	Asp	Phe	Thr	Lys	Leu	Lys	Tyr	Ser	Tyr
								180		185			190		
Asn	Val	Gly	Leu	Trp	Gly	Thr	Ser	Ile	Cys	Gly	Gly	Glu	Ile	Leu	Asp
								195		200			205		
Ser	Ala	Gln	Gly	Leu	Pro	Glu	Thr	Ala	Tyr	Leu	Lys	Gln	Val	Thr	Lys
								210		215			220		
Glu	Gly	Ser	Glu	Leu	Leu	Arg	Leu	Glu	Phe	Lys	Asn	Gly	Glu	Leu	His
								225		230			235		240
Ala	Val	Asn	Gly	Glu	Val	Phe	Glu	Asp	Lys	Ile	Ala	Ala	Ile	Gln	Lys
								245		250			255		
Val	Glu	Glu	Ile	Gly	Ala	Ala	Tyr	Gly	Ile	Gly	Arg	Asp	Met	His	Val
								260		265			270		
Gly	Asp	Thr	Ile	Ile	Gly	Ile	Lys	Gly	Arg	Val	Gly	Phe	Glu	Ala	Ala
								275		280			285		
Ala	Pro	Met	Leu	Ile	Ile	Gly	Ala	His	Arg	Phe	Leu	Glu	Lys	Tyr	Thr
								290		295			300		
Leu	Ser	Lys	Trp	Gln	Gln	Tyr	Trp	Lys	Asp	Gln	Val	Ala	Asn	Trp	Tyr
								305		310			315		320
Gly	Met	Phe	Leu	His	Glu	Ser	Gln	Tyr	Leu	Glu	Pro	Val	Met	Arg	Asp
								325		330			335		
Ile	Glu	Ala	Met	Leu	Gln	Glu	Ser	Gln	Arg	Asn	Val	Asn	Gly	Thr	Ala
								340		345			350		
Ile	Leu	Glu	Leu	Arg	Pro	Leu	Ser	Phe	Ser	Thr	Val	Gly	Val	Glu	Ser
								355		360			365		
Gln	Asp	Asp	Leu	Val	Lys	Thr	Lys	Phe	Gly	Glu	Tyr	Gly	Glu	Met	Gln
								370		375			380		
Lys	Gly	Trp	Thr	Ala	Glu	Asp	Ala	Lys	Gly	Phe	Ile	Lys	Val	Thr	Ser
								385		390			395		400
Thr	Pro	Leu	Arg	Val	Tyr	Tyr	Ala	Asn	His	Lys	Asp	Glu	Glu	Val	

405

410

415

&lt;210&gt; 6590

&lt;211&gt; 166

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6590

Gly	Phe	Ser	Lys	Gly	Ile	Tyr	Gln	Tyr	Asp	Glu	Arg	Ile	Gly	Ile	Glu
1					5				10					15	
Cys	Phe	Cys	Asp	Gly	Ala	Arg	Ile	Arg	Phe	Ala	Pro	Asp	Leu	Leu	Leu
							20			25				30	
Glu	Asn	Met	Lys	Thr	Leu	Ile	Lys	Thr	Ala	Gly	Thr	Asn	Phe	Leu	Ile
						35			40				45		
Ile	Asp	Gly	His	His	Cys	Thr	Glu	Lys	Thr	Ala	Val	Ile	Glu	Thr	Val
						50			55				60		
Asn	Ser	Met	Met	Leu	Gln	Thr	Val	Glu	Gly	Val	Ile	Tyr	Leu	Phe	Pro
						65			70		75			80	
Cys	Trp	Thr	Gln	Thr	Pro	Ala	Ala	Phe	Thr	Arg	Leu	Arg	Ala	Lys	Gly
						85			90				95		
Ala	Phe	Leu	Val	Ser	Ala	Asp	Tyr	Asp	Gly	Thr	Ser	Val	Gly	Gly	Leu
						100			105				110		
Lys	Ile	Phe	Ser	Glu	Lys	Gly	Gly	Ile	Cys	Arg	Leu	Ser	Asn	Pro	Trp
						115			120				125		
Arg	Gly	Arg	Lys	Leu	Arg	Val	Thr	Glu	Asn	Gly	Lys	Pro	Val	Ser	Val
						130			135				140		
Lys	Glu	Gln	Asn	Asn	Val	Cys	Ser	Phe	Ile	Thr	Arg	Lys	Gly	Ser	Thr
						145			150				155		160
Tyr	Thr	Ile	Val	Gly	Leu										
					165										

&lt;210&gt; 6591

&lt;211&gt; 533

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6591

Leu	Met	Ala	Asn	Ile	Lys	Gln	Ala	Val	Lys	Leu	Gly	Val	Phe	Thr	Leu
1					5				10				15		
Ala	Ile	Met	Asn	Val	Thr	Ala	Val	Val	Ser	Leu	Arg	Gly	Leu	Pro	Ala
					20				25				30		
Glu	Ala	Val	Tyr	Gly	Met	Ser	Ser	Ala	Phe	Tyr	Tyr	Leu	Phe	Ala	Ala
					35				40			45			
Ile	Val	Phe	Leu	Ile	Pro	Thr	Ser	Leu	Val	Ala	Ala	Glu	Leu	Ala	Ala
					50				55			60			
Met	Phe	Gln	Asp	Lys	Gln	Gly	Gly	Val	Phe	Arg	Trp	Val	Gly	Glu	Ala
					65				70		75		80		
Tyr	Gly	Lys	Lys	Leu	Gly	Phe	Leu	Ala	Ile	Trp	Val	Gln	Trp	Ile	Glu
						85			90				95		
Ser	Thr	Ile	Trp	Tyr	Pro	Thr	Val	Leu	Thr	Phe	Gly	Ala	Val	Ser	Ile
					100				105				110		
Ala	Phe	Ile	Gly	Met	Asn	Asp	Thr	His	Asp	Met	Thr	Leu	Ala	Ser	Asn
					115				120				125		
Lys	Tyr	Tyr	Thr	Leu	Ala	Val	Val	Leu	Ile	Ile	Tyr	Trp	Leu	Ala	Thr
					130				135			140			
Phe	Ile	Ser	Leu	Lys	Gly	Met	Gly	Trp	Val	Gly	Lys	Val	Ala	Lys	Ile
					145				150		155		160		
Gly	Gly	Met	Val	Gly	Thr	Ile	Ile	Pro	Ala	Ala	Leu	Leu	Ile	Ile	Leu
					165				170				175		

Gly Ile Val Tyr Leu Ala Ser Gly Gly His Ser Asn Leu Asp Phe His  
     180                     185                     190  
 Ser Ser Phe Phe Pro Asp Leu Thr Asn Phe Asp Asn Val Val Leu Ala  
     195                     200                     205  
 Ala Ser Ile Phe Leu Phe Tyr Ala Gly Met Glu Met Gly Gly Ile His  
     210                     215                     220  
 Val Lys Asp Met Gln Asn Pro Ser Lys Asn Tyr Pro Lys Ala Val Phe  
     225                     230                     235                     240  
 Ile Gly Ala Leu Ile Thr Val Ile Ile Phe Val Leu Gly Thr Phe Ser  
     245                     250                     255  
 Leu Gly Ile Ile Ile Pro Ala Lys Asp Ile Ser Leu Thr Gln Ser Leu  
     260                     265                     270  
 Leu Val Gly Phe Asp Asn Tyr Phe Arg Tyr Ile His Ala Ser Trp Leu  
     275                     280                     285  
 Ser Pro Ile Ile Ala Ile Ala Leu Ala Phe Gly Val Leu Ala Gly Val  
     290                     295                     300  
 Leu Thr Trp Val Ala Gly Pro Ser Lys Gly Ile Phe Ala Val Gly Lys  
     305                     310                     315                     320  
 Ala Gly Tyr Met Pro Pro Phe Phe Gln Lys Thr Asn Lys Leu Gly Val  
     325                     330                     335  
 Gln Lys Asn Ile Leu Phe Val Gln Gly Gly Ala Val Thr Val Leu Ser  
     340                     345                     350  
 Leu Leu Phe Val Val Met Pro Ser Val Gln Ser Phe Tyr Gln Ile Leu  
     355                     360                     365  
 Ser Gln Leu Thr Val Ile Leu Tyr Leu Val Met Tyr Leu Leu Met Phe  
     370                     375                     380  
 Ser Gly Ala Ile Tyr Leu Arg Tyr Asn Met Lys Lys Ala Asn Arg Pro  
     385                     390                     395                     400  
 Phe Arg Ile Gly Lys Lys Gly Asn Gly Leu Met Trp Ile Val Gly Gly  
     405                     410                     415  
 Leu Gly Phe Leu Gly Ser Leu Leu Ala Phe Ile Leu Ser Phe Ile Pro  
     420                     425                     430  
 Pro Ser Gln Ile Ser Thr Gly Ser Asn Thr Val Trp Phe Ser Val Leu  
     435                     440                     445  
 Ile Ile Gly Ala Leu Val Val Ile Ala Pro Phe Ile Ile Tyr Ala  
     450                     455                     460  
 Ala Lys Lys Pro Ser Trp Ala Asp Pro Asn Ser Thr Phe Glu Pro Phe  
     465                     470                     475                     480  
 His Trp Glu Thr Gln Ala Lys Pro Gln Val Ala Pro Ala Thr Thr Thr  
     485                     490                     495  
 Thr Ala Gly Pro Ala Thr Ser Ser Ala Thr Thr Ile Gly Ser Thr Thr  
     500                     505                     510  
 Ser Ala Pro Ser Thr Gly Ser Gly Ser Val Ser Ser Asp Lys Asp Thr  
     515                     520                     525  
 Pro Gln Lys Gln Ser  
     530

&lt;210&gt; 6592

&lt;211&gt; 188

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6592

Met Gln Ser Glu Asp Gly Ala Phe Tyr Phe His Arg Gly Phe Leu Pro  
     1                     5                     10                     15  
 Glu Ala Met Arg Lys Ala Leu Tyr Gln Asp Leu Lys Val Lys Arg Phe  
     20                     25                     30  
 Ala Arg Gly Gly Ser Thr Ile Thr Met Gln Leu Val Lys Ser Val Phe  
     35                     40                     45

Leu Ser Arg Asn Lys Asn Ile Ala Arg Lys Leu Glu Glu Ala Leu Ile  
 50 55 60  
 Val Trp Leu Ile Glu Thr Glu Arg Leu Thr Ser Lys Glu Arg Met Tyr  
 65 70 75 80  
 Glu Val Tyr Leu Asn Ile Val Glu Trp Gly Pro Leu Val Tyr Gly Val  
 85 90 95  
 Gln Glu Ala Ala Thr Tyr Phe Lys Lys Arg Pro Ser Gln Leu Thr  
 100 105 110  
 Ala Glu Glu Ser Ile Phe Leu Ala Ser Ile Ile Pro Lys Pro Lys His  
 115 120 125  
 Phe Arg Asn Ser Phe Asn Asn Asp Met Gln Leu Lys Glu Ser Leu Glu  
 130 135 140  
 Gly Tyr Tyr Arg Leu Ile Thr Glu Arg Leu Val Lys Lys Gly Ile Ile  
 145 150 155 160  
 Ser Glu Val Ala Ala Asp Ser Ile Arg Pro Glu Ile Asn Val Thr Gly  
 165 170 175  
 Glu Ala Lys Lys Asp Leu Gln Arg Asp Ser Ile Gln  
 180 185

&lt;210&gt; 6593

&lt;211&gt; 221

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6593

Lys Leu Asn Asp Met Arg Lys Val Ile Ile Thr Leu Cys Phe Leu Phe  
 1 5 10 15  
 Val Ala Phe Val Ala Gln Ala Gly Arg Ile Ser Gly Ile Asn Ile Gln  
 20 25 30  
 Ser Ser Gly Glu Ala Ile Leu Val Phe Val Asp Gly Glu Gln Ile Cys  
 35 40 45  
 Thr Pro Thr Glu Thr Cys Phe Ile Ala Asn Tyr Ser Gly Arg His Arg  
 50 55 60  
 Ile Glu Val Tyr Ala Val Arg Tyr Ile Pro Arg Thr Gly Gln Ser Val  
 65 70 75 80  
 Lys Gly Asp Leu Leu Phe Gln Glu Trp Val Ser Asn Pro Gly Met Asn  
 85 90 95  
 Ile Arg Asp Ile Arg Val Gly Tyr Asn Asp Arg Pro Asp Phe Cys Pro  
 100 105 110  
 Asp Arg Pro Val Arg Pro Gly Tyr Asp Val Val Met Asn Arg Thr Glu  
 115 120 125  
 Phe Asp Arg Phe Leu Arg Ser Val Lys Asp Lys His Phe Asp Ser Asp  
 130 135 140  
 Arg Asn Lys Leu Ile Glu Thr Thr Leu Val Ser Thr Gly Phe Thr Ser  
 145 150 155 160  
 Asp Gln Cys Leu Gln Leu Val Asn Leu Phe Ser Phe Asp Ser Glu Lys  
 165 170 175  
 Ile Lys Leu Met Gln Ala Met Tyr Pro Arg Ile Val Asp Lys Pro Asn  
 180 185 190  
 Phe Tyr Leu Val Ile Glu Ser Leu Thr Phe Gln Ser Asp Lys Asn Lys  
 195 200 205  
 Met Asn Glu Phe Val Arg Lys Tyr His Asn Gln Arg Asn  
 210 215 220

&lt;210&gt; 6594

&lt;211&gt; 347

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6594

Lys Met Lys Glu Glu Lys Tyr Met Arg Arg Cys Ile Gln Leu Ala Lys  
 1 5 10 15  
 Asn Gly Leu Cys Asn Val Ser Pro Asn Pro Met Val Gly Ala Val Ile  
 20 25 30  
 Val Cys Glu Gly Gln Ile Ile Gly Glu Gly Tyr His Ile Arg Cys Gly  
 35 40 45  
 Glu Ala His Ala Glu Val Asn Ala Ile Arg Ser Val Lys Asp Leu Ser  
 50 55 60  
 Leu Leu Lys His Ser Thr Ile Tyr Val Ser Leu Glu Pro Cys Ser His  
 65 70 75 80  
 His Gly Lys Thr Pro Pro Cys Ala Asp Leu Ile Ile Glu Lys Gln Ile  
 85 90 95  
 Pro Arg Ile Val Ile Gly Cys Gln Asp Pro Phe Ser Lys Val Ala Gly  
 100 105 110  
 Lys Gly Ile Gln Lys Leu Arg Asp Ala Gly Cys Glu Val Ile Val Gly  
 115 120 125  
 Val Leu Glu Thr Glu Cys Arg Glu Leu Ile Arg Lys Phe Ile Thr Phe  
 130 135 140  
 His Thr Leu His Arg Pro Tyr Ile Val Leu Lys Trp Ala Glu Ser Ala  
 145 150 155 160  
 Asp Gly Phe Ile Asp Leu Glu Arg Thr Glu Gly Gln Pro Val Ile Leu  
 165 170 175  
 Ser Thr Pro Leu Thr Ser Met Leu Val His Lys Lys Arg Ala Glu Ser  
 180 185 190  
 Asp Ala Ile Met Val Gly Thr Arg Thr Ala Leu Leu Asp Asn Pro Ala  
 195 200 205  
 Leu Thr Val Arg Asn Trp His Gly His Asn Pro Val Arg Ile Val Met  
 210 215 220  
 Asp Arg Asn His Ser Leu Pro Gln Thr Ser His Leu Ser Asp Asn Ser  
 225 230 235 240  
 Val Ser Thr Leu Val Phe Thr Glu His Pro Arg Ala Gly Lys Glu Asn  
 245 250 255  
 Leu Glu Tyr Ile Thr Leu Asn Tyr Gln Thr Asp Ile Leu Pro Gln Ile  
 260 265 270  
 Leu Ser Ala Leu Tyr Gln Arg Asn Leu Gln Ser Leu Met Ile Glu Gly  
 275 280 285  
 Gly Arg Ile Leu Leu Glu Ser Phe Ile Arg Ser Gly Ile Trp Asp Glu  
 290 295 300  
 Val Ile Ile Glu Lys Ser Asp Lys Leu Leu Tyr Ser Gly Val Lys Ala  
 305 310 315 320  
 Pro Glu Ile Ser Asp Lys Ile Ser Tyr Ser Glu Glu Lys His Phe Cys  
 325 330 335  
 Thr Thr Phe Arg His Tyr Leu Lys Arg Asn Thr  
 340 345

&lt;210&gt; 6595

<211> 252  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 6595

Asp Met Lys Arg Ile Leu Ile Phe Phe Leu Val Ile Gly Ile Thr Ala  
 1 5 10 15  
 Ile Ser Ser Val Ser Met Ala Ala Met Ser Asn Ser Arg Ile Arg Lys  
 20 25 30  
 Glu Thr Arg Phe Leu Thr Asp Lys Met Ala Tyr Glu Leu Asn Leu Ser  
 35 40 45  
 Thr Gly Gln Tyr Asn Asp Val Tyr Glu Ile Asn Tyr Asp Phe Ile Tyr

50	55	60
Ser Ile Arg Tyr Leu Met Asp Asp Val Ile Arg Gly Glu Glu Trp Ala		
65	70	75
Leu Asp Lys Tyr Tyr Arg Thr Leu Asp Ile Arg Asn Asp Asp Leu Arg		80
85	90	95
Trp Val Leu Thr Ala Ser Gln Tyr Arg Arg Phe Ile Gly Val Asp Tyr		
100	105	110
Phe Tyr Arg Pro Val Tyr Ala Ser Gly Gly Ser Trp Ser Phe Arg Ile		
115	120	125
Tyr Ile Arg Tyr Thr Asn His Asn His Phe Tyr Phe Gly Lys Pro Tyr		
130	135	140
His Tyr Asn Ser Tyr Cys Gly Gly His Tyr Arg Thr His Tyr His Asn		
145	150	155
Ser Tyr Tyr Arg Gly Arg Tyr Arg His Asp Phe Tyr Ser Gly Ser His		160
165	170	175
Ser Ile Arg Asp His Arg Asn Tyr Asn Thr His Arg Arg Ser Asp Phe		
180	185	190
Gly Ser Val Thr Ile Arg Ser Asn Ser Gly Arg Arg Asp Glu Val Arg		
195	200	205
Arg Gly Val Ser Gln Arg Glu Ser Ser Ala Ser Arg Asp Asn Asn Arg		
210	215	220
Val Thr Pro Gly Asn Val Thr Arg Thr Gly Arg Gly Thr Arg Ser Thr		
225	230	235
Glu Asn Asn Arg Arg Thr Asn Thr Gly Pro Glu Glu		240
245	250	

&lt;210&gt; 6596

&lt;211&gt; 163

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6596

Leu Lys Tyr Arg Lys Lys Ser His Ser Asp Arg Ile Cys Ser Asp Cys		
1	5	10
Ser Ser Phe Phe Ile Ser Lys Ile Asn Lys Met Thr Lys Phe Glu		15
20	25	30
Ser Ser Val Lys Val Ile Pro Tyr Ser Gln Glu Arg Val Tyr Glu Lys		
35	40	45
Leu Ala Asp Leu Ser Asn Leu Glu Ala Ile Lys Asp Arg Leu Pro Glu		
50	55	60
Asp Lys Val Lys Asn Met Ser Phe Asp Thr Asp Thr Leu Ser Phe Asn		
65	70	75
Val Asp Pro Val Gly Gln Leu Thr Leu Arg Ile Ile Glu Arg Glu Pro		80
85	90	95
Ser Lys Cys Ile Lys Phe Glu Thr Thr Asn Ser Pro Leu Pro Phe Asn		
100	105	110
Met Trp Ile Gln Leu Val Ala Val Ser Glu Glu Cys Lys Leu Lys		
115	120	125
Val Thr Ile Gly Leu Glu Ile Asn Pro Phe Met Lys Ala Met Val Gln		
130	135	140
Lys Pro Leu Asn Glu Gly Leu Glu Lys Met Ala Asp Met Leu Ser Met		
145	150	155
Ile Gln Tyr		160

&lt;210&gt; 6597

&lt;211&gt; 326

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6597

Gly Arg Arg Gly Met Ile Lys Ala Gly Ile Ile Gly Gly Ala Gly Tyr  
 1 5 10 15  
 Thr Ala Gly Glu Leu Ile Arg Leu Leu Ile Asn His Pro Glu Thr Glu  
 20 25 30  
 Ile Val Phe Ile Asn Ser Thr Ser Asn Ala Gly Asn Lys Ile Thr Asp  
 35 40 45  
 Val His Glu Gly Leu Tyr Gly Glu Cys Asp Leu Ala Phe Thr Asp Glu  
 50 55 60  
 Leu Pro Leu Glu Asp Ile Asp Val Leu Phe Phe Cys Thr Ala His Gly  
 65 70 75 80  
 Asp Thr Lys Lys Phe Met Glu Ser His Asn Ile Pro Glu Glu Leu Lys  
 85 90 95  
 Ile Ile Asp Leu Ser Met Asp Tyr Arg Ile Ala Ser Pro Asp His Asp  
 100 105 110  
 Phe Ile Tyr Gly Leu Pro Glu Leu Asn Arg Arg Ala Thr Cys Thr Ala  
 115 120 125  
 Lys His Val Ala Asn Pro Gly Cys Phe Ala Thr Cys Ile Gln Leu Gly  
 130 135 140  
 Leu Leu Pro Leu Ala Lys His Leu Met Leu Asn Glu Asp Val Met Val  
 145 150 155 160  
 Asn Ala Ile Thr Gly Ser Thr Gly Ala Gly Val Lys Pro Gly Ala Thr  
 165 170 175  
 Ser His Phe Ser Trp Arg Asn Asn Asn Met Ser Val Tyr Lys Ala Phe  
 180 185 190  
 Glu His Gln His Val Pro Glu Ile Lys Gln Ser Leu Lys Gln Leu Gln  
 195 200 205  
 Asn Ser Phe Asp Ala Glu Ile Asp Phe Ile Pro Tyr Arg Gly Asp Phe  
 210 215 220  
 Pro Arg Gly Ile Phe Ala Thr Leu Val Val Lys Thr Lys Val Ala Leu  
 225 230 235 240  
 Glu Glu Ile Val Arg Met Tyr Glu Glu Tyr Tyr Ala Lys Asp Ser Phe  
 245 250 255  
 Val His Ile Val Asp Lys Asn Ile Asp Leu Lys Gln Val Val Asn Thr  
 260 265 270  
 Asn Lys Cys Leu Ile His Leu Glu Lys His Gly Asp Lys Leu Leu Ile  
 275 280 285  
 Ile Ser Cys Ile Asp Asn Leu Leu Lys Gly Ala Ser Gly Gln Ala Val  
 290 295 300  
 His Asn Met Asn Leu Met Phe Asn Leu Glu Glu Thr Val Gly Leu Arg  
 305 310 315 320  
 Leu Lys Pro Ser Ala Phe  
 325

&lt;210&gt; 6598

<211> 228  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 6598

Leu Lys Pro Ile Arg Ile Met Lys Lys Ile His Val Ser Ala Ile Leu  
 1 5 10 15  
 Ile Leu Leu Val Val Met Ser Ser Cys Ala Gly Leu Ile Leu Asn Phe  
 20 25 30  
 Lys Asn Ser Gln Leu Met Ser Ile Gln Lys Gly Met Thr Gln Gln Glu  
 35 40 45  
 Val Lys Ala Ile Leu Gly Lys Pro Asn Tyr Arg Arg Phe Asp Gly Ala  
 50 55 60

Met Glu Glu Trp Glu Tyr Arg Gly Tyr Leu Ser Lys Ala Gly His Ser  
 65 70 75 80  
 Val Ile Cys Val Asn Phe Ile Asp Asn Arg Val Val Gly Leu Asp Ser  
   85 90 95  
 Phe Arg Asp Gly Ala Pro Thr Ala Pro Pro Ala Pro Ser Phe Ser Leu  
   100 105 110  
 Gly Ile Gly Gly Thr Val Thr Ala Ser Asp Ile Ala Pro Ala Cys Asp  
   115 120 125  
 Tyr Arg Ala Met Arg Asn Asp Glu Phe Ala Arg Phe Leu Asn Asp Val  
   130 135 140  
 Lys Ser Lys Thr Phe Asp Ser Asp Arg Thr Asp Phe Ile Glu Lys Ala  
   145 150 155 160  
 Thr Arg Ser Thr Gly Phe Thr Ser Glu Gln Cys Cys Arg Leu Ile Lys  
   165 170 175  
 Leu Tyr Ser Phe Asp Asp Asp Arg Thr Lys Val Leu Lys Ile Leu Tyr  
   180 185 190  
 Pro Ser Val Val Asp Lys Asp Asn Phe Ser Ala Ala Ile Asp Gly Leu  
   195 200 205  
 Asp Phe Leu Ser Asn Gln Asp Thr Val Lys Asn Phe Val Arg Asn Tyr  
   210 215 220  
 Asn Arg Ile Lys  
 225

&lt;210&gt; 6599

&lt;211&gt; 260

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6599

Leu Tyr Asn Met Lys Val Ala Ile Ile Gly Ala Gly Asn Met Gly Gly  
 1 5 10 15  
 Ser Ile Ala Cys Gly Leu Ala Lys Gly Lys Leu Ile Pro Ala Ser Asp  
   20 25 30  
 Ile Ile Val Ser Asn Pro Ser Ile Gly Lys Leu Glu Ala Leu Lys Lys  
   35 40 45  
 Glu Phe Pro Ser Ile Ala Ile Thr Arg Asn Asn Ala Glu Ala Ala Thr  
   50 55 60  
 Gly Ala Asp Ile Val Ile Leu Ala Val Lys Pro Trp Leu Ile Arg Gly  
   65 70 75 80  
 Val Leu Arg Glu Met Lys Leu Arg Ser Lys Gln Ile Leu Val Ser Val  
   85 90 95  
 Ala Ala Gly Ile Ser Phe Glu Gln Leu Ala His Asp Val Val Glu Pro  
   100 105 110  
 Glu Met Pro Met Phe Arg Ile Val Pro Asn Thr Ala Ile Ser Glu Leu  
   115 120 125  
 Gln Ser Met Thr Leu Ile Ala Ser Arg Asn Ala Gly Gln Glu Leu Glu  
   130 135 140  
 Thr Leu Met Val Asn Leu Phe Ser Glu Met Gly Met Ala Met Ile Leu  
   145 150 155 160  
 Pro Glu Asp Lys Leu Glu Ala Ala Thr Ala Leu Thr Ser Cys Gly Ile  
   165 170 175  
 Ala Tyr Val Leu Lys Tyr Ile Gln Ala Ala Met Gln Ala Gly Ile Glu  
   180 185 190  
 Met Gly Ile Arg Pro Ser Asp Ala Met Asp Met Ile Ala Gln Ser Val  
   195 200 205  
 Lys Gly Ala Ala Glu Leu Ile Leu Asn Asn Asp Thr His Pro Ser Val  
   210 215 220  
 Glu Ile Asp Lys Val Thr Thr Pro Gly Gly Ile Thr Ile Lys Gly Ile  
 225 230 235 240

Asn Glu Leu Glu His Asn Gly Phe Thr Ser Ala Ile Ile Lys Ala Met  
 245 250 255  
 Lys Ala Ser Arg  
 260

<210> 6600  
 <211> 230  
 <212> PRT  
 <213> B.fragilis

<400> 6600  
 Ser Arg Ser Ile Ser Val Phe Leu His Pro Val Ile Ile Ile Val Ser  
 1 5 10 15  
 Leu Val Met Lys Asn Leu Glu Arg Leu Phe Ala Glu Lys Leu Leu Lys  
 20 25 30  
 Ile Lys Ala Ile Lys Leu Gln Pro Ala Asn Pro Phe Thr Trp Ala Ser  
 35 40 45  
 Gly Trp Lys Ser Pro Phe Tyr Cys Asp Asn Arg Lys Thr Leu Ser Tyr  
 50 55 60  
 Pro Ser Leu Arg Ser Phe Val Lys Phe Glu Ile Thr Arg Leu Val Leu  
 65 70 75 80  
 Glu Arg Phe Gly Gln Val Asp Ala Ile Ala Gly Val Ala Thr Gly Ala  
 85 90 95  
 Ile Pro Gln Gly Ala Leu Val Ala Asp Ala Leu Asn Leu Pro Phe Val  
 100 105 110  
 Tyr Val Arg Ser Thr Pro Lys Asp His Gly Leu Glu Asn Leu Ile Glu  
 115 120 125  
 Gly Glu Leu Arg Pro Gly Met Lys Val Val Val Val Glu Asp Leu Ile  
 130 135 140  
 Ser Thr Gly Gly Ser Ser Leu Lys Ala Val Glu Ala Ile Arg Arg Asp  
 145 150 155 160  
 Gly Cys Glu Val Ile Gly Met Val Ala Ala Tyr Thr Tyr Gly Phe Pro  
 165 170 175  
 Val Ala Glu Gln Ala Phe Lys Asp Ala Lys Val Pro Leu Val Thr Leu  
 180 185 190  
 Thr Asn Tyr Glu Ala Val Leu Asp Val Ala Leu Arg Thr Gly Tyr Ile  
 195 200 205  
 Glu Glu Glu Asp Ile Ala Thr Leu Asn Glu Trp Arg Lys Asp Pro Ala  
 210 215 220  
 His Trp Glu Thr Gly Lys  
 225 230

<210> 6601  
 <211> 458  
 <212> PRT  
 <213> B.fragilis

<400> 6601  
 Ile Asn Thr Ile Phe Gln Met Arg Ile Lys Phe Leu Ser Val Ile Val  
 1 5 10 15  
 Ser Phe Phe Leu Val Ser Phe Ala Val Thr Ser Cys Leu Asp Thr Glu  
 20 25 30  
 Glu Ile Glu Tyr Ser Pro Asp Ala Thr Ile His Ala Phe Ala Leu Asp  
 35 40 45  
 Thr Ile His Gly Val Asn Tyr Lys Phe Thr Ile Asp Gln Leu Gly Pro  
 50 55 60  
 Asp Gly Val Gly Leu Ile Tyr Asn Gln Asp Ser Leu Pro Val Gly Ser  
 65 70 75 80  
 Asp Thr Ile Ile Asp Arg Ile Leu Ile Lys Thr Leu Thr Thr Ser

85	90	95
Gly Ile Ile Thr Ala Lys Asn Ala Glu	Gly Gln Asp Thr Leu	Phe Asn
100	105	110
Tyr Ser Asp Ser Ile Asp Phe Arg	Gly Thr Met Gln Lys	Pro Met Arg
115	120	125
Ile Lys Val Trp Ala Ala Asp Met	Gln Tyr Thr Lys Glu	Tyr Thr Ile
130	135	140
Ser Val Arg Val His Gln	Gln Asp Pro Asp Ser	Met Asn Trp Thr Lys
145	150	155
Met Thr Asp Asn Phe Ala Asn Tyr	Ser Gly Tyr Gln Lys	Ser Val Thr
165	170	175
Leu Asn Glu Asp Leu Leu Ile Tyr	Thr Ser Asn Thr Thr	Ala Tyr Gln
180	185	190
Ser Ser Gly Asp Val Ile Ser Lys	Gly Arg Ser Trp Thr	Pro Val Ser
195	200	205
Ile Thr Gly Leu Pro Asp Asn Ile Lys	Leu Ser Ser	Ile Ile Ser Phe
210	215	220
Gly Gly Lys Leu Tyr Ala Thr Asn	Gly Glu Ser Ala	Tyr Val Ser Ser
225	230	235
Asp Gly Ala Leu Trp Asn Val Ala Thr	Asp Leu Asn Lys Asn	Gly Lys
245	250	255
Val Glu Met Leu Ile Ala Pro Phe	Pro Lys Asn Glu	Gly Asn Leu Leu
260	265	270
Gly Ile Ser Gly Ile Ala Gly	Ile Ile Asn Asn Gly	Asp Gln Ser Thr
275	280	285
Phe Ala Ile Thr Asn Pro Glu Ala Thr	Ala Trp Asn Ile	Gly Ser Glu
290	295	300
Thr Val Gly Ala Asp Phe Pro Leu	Glu Asn Leu Ser Ala	Thr Ser Tyr
305	310	315
Leu Thr Ala Thr Gly Ile Gln Thr	Ile Ala Val Met	Gly Asn Asn Arg
325	330	335
Asn Ala Asn Asp Thr Thr Ser Ile	Ala Trp Thr Ser Gln	Asp Gly Leu
340	345	350
Leu Trp Ile Pro Leu Lys Thr	Ser Ser Ser Thr Ala	Tyr Cys Pro Lys
355	360	365
Leu Asp Asn Pro Ser Phe Phe	Tyr Tyr Asp Asn Ala	Phe Leu Ala Phe
370	375	380
Gly Gly Asn Phe Glu Thr Ile Tyr	Thr Ser Glu Ala	Gly Ile Ala Trp
385	390	395
Tyr Lys Ala Asn Lys Lys Ile Phe	Leu Pro Ala Glu	Phe Lys Asp Arg
405	410	415
Gly Asn Asn Tyr Ser Thr Val Val	Asp Lys Asn Asn Phe	Ile Trp Val
420	425	430
Ile Trp Ser Asn Gly Gly Ala Asn	Glu Val Trp Arg	Gly Arg Leu Asn
435	440	445
Lys Phe Gly Phe Glu Arg Gln Asn	Asn Asn Asn	
450	455	

&lt;210&gt; 6602

&lt;211&gt; 203

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6602

Leu Thr Thr Ile Ile Leu Tyr Thr Lys Ser Thr Met Asp Thr Gln Gln  
1 5 10 15Ile Asp Val Met Val Ala Asp Ala Ser His Glu Val Tyr Val Asp Thr  
20 25 30

Ile Leu Glu Thr Ile Arg Asn Ala Ala Lys Val Arg Gly Thr Gly Ile

35	40	45
Ala Glu Arg Thr His Glu Tyr Val Ala Thr Lys Met Lys	Glu Gly Lys	
50	55	60
Ala Ile Ile Ala Leu Cys Gly Asp Val Phe Ala Gly Phe Thr Tyr Ile		
65	70	75
80		
Glu Ser Trp Gly Asn Lys Gln Tyr Val Ala Thr Ser Gly Leu Ile Val		
85	90	95
His Pro Asp Phe Arg Gly Leu Gly Leu Ala Lys Arg Ile Lys Gln Ala		
100	105	110
Ser Phe Gln Leu Ala Arg Leu Arg Trp Pro Arg Ala Lys Ile Phe Ser		
115	120	125
Leu Thr Ser Gly Ala Ala Val Met Lys Met Asn Thr Glu Leu Gly Tyr		
130	135	140
Val Pro Val Thr Phe Asn Glu Leu Thr Asp Asp Glu Ala Phe Trp Lys		
145	150	155
160		
Gly Cys Glu Gly Cys Ile Asn His Glu Ile Leu Met Ala Lys Asp Arg		
165	170	175
Lys Phe Cys Ile Cys Thr Ala Met Leu Tyr Asp Pro Thr Asp Pro His		
180	185	190
Asn Ile Lys Lys Glu Gln Glu Arg Asn Asn Ile		
195	200	

&lt;210&gt; 6603

&lt;211&gt; 377

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6603

1	5	10	15
Ile Ile Lys Gly Lys Gly Cys His Val Trp Asp Glu Asn Gly Thr Glu			
20	25	30	
Tyr Leu Asp Leu Tyr Gly Gly His Ala Val Ile Ser Ile Gly His Ala			
35	40	45	
His Pro His Tyr Val Asp Met Ile Ser Lys Gln Val Ala Thr Leu Gly			
50	55	60	
Phe Tyr Ser Asn Ser Val Ile Asn Lys Leu Gln Gln Val Ala Glu			
65	70	75	80
Arg Leu Gly Lys Ile Ser Gly Tyr Glu Asp Tyr Ser Leu Phe Leu Ile			
85	90	95	
Asn Ser Gly Ala Glu Ala Asn Glu Asn Ala Leu Lys Leu Ala Ser Phe			
100	105	110	
His Asn Gly Arg Thr Lys Val Ile Ser Phe Gly Lys Ala Phe His Gly			
115	120	125	
Arg Thr Ser Leu Ala Val Glu Ala Thr Asp Asn Pro Lys Ile Ile Ala			
130	135	140	
Pro Ile Asn Ala Asn Gly His Ile Thr Tyr Leu Pro Leu Asn Asp Ile			
145	150	155	160
Glu Ala Ala Lys Thr Glu Leu Ala Lys Glu Asp Ile Cys Ala Val Ile			
165	170	175	
Ile Glu Gly Ile Gln Gly Val Gly Gly Ile Lys Ile Pro Thr Pro Glu			
180	185	190	
Phe Leu Gln Glu Leu Arg Lys Ala Cys Thr Glu His Gly Thr Ile Leu			
195	200	205	
Ile Leu Asp Glu Ile Gln Ser Gly Tyr Gly Arg Ser Gly Lys Phe Phe			
210	215	220	
Ala His Gln Tyr Ala Gly Ile Lys Pro Asp Ile Ile Thr Val Ala Lys			
225	230	235	240
Gly Ile Gly Asn Gly Phe Pro Met Ala Gly Val Leu Ile Ser Pro Met			

245	250	255
Phe Thr Pro Val Tyr Gly Met Leu Gly	Thr Thr Phe Gly Gly	Asn His
260	265	270
Leu Ala Cys Ser Ala Ala Leu Ala Val Met Asp Val	Ile Glu Gln Glu	
275	280	285
Asn Leu Val Glu Asn Ala Ala Asn Ile Gly Ser Tyr	Leu Leu Glu Glu	
290	295	300
Leu Lys Lys Phe Lys Glu Ile Lys Glu Val Arg	Gly Cys Gly Leu Met	
305	310	315
Ile Gly Met Glu Phe Asp Gln Pro Val Lys Glu Ile Arg	Ser Arg Leu	
325	330	335
Ile His Glu Gln Lys Val Phe Thr Gly Ala Ser Gly	Thr Asn Val Ile	
340	345	350
Arg Leu Leu Pro Pro Leu Cys Leu Ser Lys Glu Glu Ala Asp Glu Phe		
355	360	365
Leu Ala Arg Leu Arg Lys Val Leu Gly		
370	375	

<210> 6604

<211> 413

<212> PRT

<213> B.fragilis

<400> 6604

Lys Tyr Met Met Ile Tyr Ile Ile Phe Ser Val Phe Ile Ile Ile Ile			
1	5	10	15
Leu Phe Ile Cys Ala Arg Tyr Trp Tyr Leu Trp Arg Lys Ile Ser Val			
20	25	30	
Gln Lys Asn Glu Trp Val Ala Gln Thr Lys Glu Ser Asp Thr Ile Leu			
35	40	45	
Arg Ser Met Asn Ala Cys Phe Ile Leu Ile Asn Ser Asp Leu Val Val			
50	55	60	
Ile Arg Thr Asn Tyr Tyr Asp Leu Ser Gly Ile Ser Glu Glu Pro Glu			
65	70	75	80
Ser Ser Gly Arg Val Gly Asp Leu Leu Asn Cys Lys Asn Ala Val Arg			
85	90	95	
Ser Gly Gly Cys Gly Ala His Lys Asn Cys Glu Asn Cys Met Ile			
100	105	110	
Arg His Thr Ile Glu Asn Ala Phe Cys His Lys Lys Gly Phe His Lys			
115	120	125	
Leu Glu Ala Ser Met Arg Leu Leu Ser Ser Asp His Gln Gln Ile Ile			
130	135	140	
Pro Cys Asp Val Ser Val Ser Gly Thr Tyr Leu Asn Asn Glu Gly His			
145	150	155	160
Glu Gln Met Leu Leu Thr Val Tyr Asp Ile Thr Glu Leu Lys Asn Met			
165	170	175	
Gln Arg Leu Leu Asn Ile Glu Lys Glu Asn Ala Val Ser Ala Glu Lys			
180	185	190	
Leu Lys Ser Ala Phe Ile Ala Asn Met Ser His Glu Ile Arg Thr Pro			
195	200	205	
Leu Asn Ala Ile Val Gly Phe Ser Gly Leu Leu Ala Ser Ala Asp Asp			
210	215	220	
Asp Thr Glu Lys Lys Met Tyr Leu Asp Ile Val Ala Glu Asn Asn Asp			
225	230	235	240
Arg Leu Leu Gln Ile Val Thr Asp Val Leu Asp Leu Ser Lys Ile Glu			
245	250	255	
Ser Gly Ser Leu Asp Phe His Tyr Ser Glu Phe Asp Val Asn Asp Leu			
260	265	270	
Leu Cys Ala Leu His Gly Ile Leu Asn Ile Arg Leu Lys Asp Lys Pro			

275	280	285
Glu Ile Lys Leu Ile Cys Lys Ala Gly Thr Asp Glu Trp Ile Ile Tyr		
290	295	300
Ser Glu Gln His Arg Ile Val Gln Ile Ile Thr Asn Leu Val His Asn		
305	310	315
Ala Met Lys Phe Thr His Ser Gly Glu Ile Cys Phe Gly Cys Arg Pro		
325	330	335
Gln Gly Glu Asp Glu Ile Tyr Phe Tyr Val Ser Asp Thr Gly Ile Gly		
340	345	350
Ile Pro Ala Gly Glu Gln Asp Lys Ile Phe Asp Arg Phe Thr Lys Leu		
355	360	365
Asp His Glu Val Pro Gly Thr Gly Leu Gly Leu Thr Leu Ser Gln Thr		
370	375	380
Ile Val Gln Asn Leu Gly Gly Glu Met Gly Val Glu Ser Glu Val Thr		
385	390	395
Lys Gly Ser Thr Phe Trp Phe Thr Leu Pro Leu Lys Ser		
405	410	

&lt;210&gt; 6605

&lt;211&gt; 659

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6605

Leu Ser Val Ile Cys Ile Thr Glu Lys Tyr Asn Arg Leu Leu Asn Thr		
1	5	10
His Ala Leu Asn Met Lys Leu Lys Phe Leu Phe Leu Phe Leu Ser Tyr		
20	25	30
Ser Leu Ser Ile His Ser Gln Asn Asn Leu Leu Tyr Ala Asp Ser Ser		
35	40	45
Lys Asp Ser Leu Phe Phe Glu Gln Lys Lys Ala Leu Leu Thr Ala Thr		
50	55	60
Trp His Lys Pro Phe Ser Tyr Ser Ser Ile Gln Ser Asn His Ala Pro		
65	70	75
Leu Gly Pro Tyr Met Gly Asn Gly Asp Val Gly Val Val Ala Phe Thr		
85	90	95
Ser Asp Asn Ser Gln Thr Leu Lys Ile Ser Lys Val Asp Phe Val Thr		
100	105	110
Asp Gly Trp Thr Asp Trp Ala Gly Ser Gly Pro Ala Ala Leu Pro Ile		
115	120	125
Gly Gly Val Asn Ile Thr Val Asn Ser Pro Val Tyr Ser Gly Phe Val		
130	135	140
Thr Val Asn Arg Ala Asp Pro Ser Gly Phe Ser Tyr Gln Met Asp Gln		
145	150	155
Leu Asn Ser Glu Leu Arg Met Thr Thr Ala Thr Ala Gln Gln Val Lys		
165	170	175
Met Val Thr Trp Met Gly Val Asn Glu Asn Met Ile Ile Thr Glu Leu		
180	185	190
Thr Thr Ser Ser Lys Thr Pro Val Pro Ile Ser Val Asp Thr Tyr Ala		
195	200	205
Asp Asn Gln Ser Ala Ser Tyr Thr Thr Ala Gln Val Asn Gly Gln		
210	215	220
Ile Ala Gln Val Thr Arg Gln Thr Lys Thr Asp Ala Val Arg Trp Ile		
225	230	235
Ser Cys Ala Gly Ile Ser Thr Lys Ile Val Gly Val Met Ser Lys Pro		
245	250	255
Glu Cys Leu Ser Glu Ser Met Val Arg Ser Asn Phe Gln Leu Thr Ala		
260	265	270
Ser Asp Thr Leu Leu Val Val Val Tyr Val Ser Gly Gly Lys Gly		

275	280	285
Asn Asp Pro Gln Leu Pro Thr Ala Tyr Asn Lys Leu Leu Thr Leu Asn		
290	295	300
Lys Ala Asp Val Thr Gln Leu Lys Met Ala Lys Lys Ala Trp Trp Lys		
305	310	315
Asp Met Trp Thr Arg Ser Tyr Val Glu Thr Asn Asp Glu Leu Leu Asn		
325	330	335
Arg His Tyr Leu Ser Ser Ile Tyr Leu Leu Ala Ser Ala Tyr Asn Glu		
340	345	350
His Ser Pro Val Ser Gly Gly Met Tyr Gly Val Trp Asn Met Asp Asp		
355	360	365
Lys Met Met Tyr His Gly Asp Ile His Leu Asn Tyr Asn Ser Gln Ala		
370	375	380
Gly Phe Tyr Ser Ala Phe Ser Ser Asn Arg Pro Glu Ile Ala Leu Pro		
385	390	395
Phe Tyr Lys Thr Ile Glu Leu Leu Ile Pro Glu Gly Lys Arg Arg Ala		
405	410	415
Lys Glu Glu Met Gly Ile Met His Pro Ser Trp Glu Gly Lys Ser Cys		
420	425	430
Arg Gly Ile Leu Phe Pro Val Gly Ala Leu Gly Ile Gly Val Phe Tyr		
435	440	445
Asn Tyr Tyr Trp Gln Gln Thr Met Asn Ala Pro Phe Asn Val Pro Leu		
450	455	460
Phe Ser Trp Tyr Tyr Glu Tyr Thr Gly Asp Leu Asn Phe Leu Arg Tyr		
465	470	475
Arg Ala Tyr Pro Tyr Ile Arg Leu Cys Gly Asp Phe Tyr Glu Asp Tyr		
485	490	495
Met Gln Lys Glu Thr Tyr Gly Lys Ser Tyr Arg Tyr Thr Ile Thr Thr		
500	505	510
Gly Gly His Glu Asp Ser Trp Asp Leu Asn Pro Pro Ser Asp Leu Ala		
515	520	525
Phe Val Lys Gln Thr Phe Gly Leu Leu Val Arg Tyr Ser Lys Leu Leu		
530	535	540
Gly Val Asp Gln Lys Arg Arg Lys Lys Trp Asp Asp Ile Leu Ser His		
545	550	555
Leu Pro Glu Tyr Lys Val Ile Met Pro Thr Lys Thr Pro Asn Gln Gly		
565	570	575
Leu Pro Val Tyr Ala Lys Asn Glu Ala Gly Trp Asp Leu Pro Ser His		
580	585	590
Ala Ile Gln Leu His Ala Ala Tyr Pro Cys Glu Ile Leu Asn Leu His		
595	600	605
Ser Asp Ser Thr Ala Leu Gln Ile Ala Arg Asn Thr Leu Tyr Tyr Tyr		
610	615	620
Glu Val Ser Gln Lys Gly Phe Thr Asn Thr Met Asn Glu Leu Gly Leu		
625	630	635
Ser Ala Phe Val Met Gly Pro Val Ser Asp Leu Leu Pro Ile Ser Tyr		
645	650	655
Trp Lys Ile		.

&lt;210&gt; 6606

&lt;211&gt; 160

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6606

Leu Tyr Lys Met Lys Lys Lys Ala Asn Arg Leu Asp Ala Ile Lys Met

1 5 10 15

Ile Ile Ser Ser Lys Glu Val Gly Ser Gln Glu Glu Leu Leu Gln Glu

20	25	30
Leu Gly Gln Glu Gly Phe Glu Leu Thr Gln Ala Thr Leu Ser Arg Asp		
35	40	45
Leu Lys Gln Leu Lys Val Ala Lys Ala Ala Ser Met Asn Gly Arg Tyr		
50	55	60
Val Tyr Val Leu Pro Asn Asp Ile Met Tyr Lys Arg Val Gly Asp Gln		
65	70	75
Ser Ala Ser Glu Met Leu Met Asn Asn Gly Phe Ile Ser Leu Gln Phe		
85	90	95
Ser Gly Asn Ile Ala Val Ile Lys Thr Arg Pro Gly Tyr Ala Ser Ser		
100	105	110
Met Ala Tyr Asp Ile Asp Asn Arg Glu Ser Asp Thr Ile Leu Gly Thr		
115	120	125
Ile Ala Gly Asp Asp Thr Ile Met Leu Val Leu Arg Glu Gly Ala Thr		
130	135	140
Pro Thr Ala Val Arg His Phe Leu Ser Leu Ile Ile Pro Asn Ile Asn		
145	150	155
		160

&lt;210&gt; 6607

&lt;211&gt; 554

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6607

1	5	10	15
Gln Glu Asp Phe Val Lys Asn Leu Lys Ile His Val Pro Asp Asn Phe			
20	25	30	
Asn Phe Gly Tyr Asp Ile Val Asp Ala Trp Ala Ala Glu Gln Pro Asp			
35	40	45	
Lys Pro Ala Leu Leu Trp Thr Asn Asp Lys Gly Glu His His Gln Phe			
50	55	60	
Ser Phe Ala Asp Met Lys Gln Tyr Thr Asp Arg Thr Ala Ser Tyr Phe			
65	70	75	80
Gln Ser Leu Gly Ile Gly His Gly Asp Met Val Met Leu Ile Leu Lys			
85	90	95	
Arg Arg Tyr Glu Phe Trp Phe Ser Ile Ile Ala Leu His Lys Leu Gly			
100	105	110	
Ala Val Val Ile Pro Ala Thr His Leu Leu Thr Lys Lys Asp Ile Val			
115	120	125	
Tyr Arg Cys Asn Ala Ala Asp Ile Lys Met Ile Val Ala Ala Gly Glu			
130	135	140	
Glu Val Val Thr Lys His Ile Ile Asp Ala Met Pro Asp Ser Pro Thr			
145	150	155	160
Val Lys His Leu Val Ser Val Gly Pro Glu Ile Pro Glu Gly Phe Asp			
165	170	175	
Asp Phe His Gln Gly Ile Glu His Ala Ala Pro Phe Val Lys Pro Glu			
180	185	190	
His Pro Asn Thr Asn Asp Asp Ile Ser Leu Met Tyr Phe Thr Ser Gly			
195	200	205	
Thr Thr Gly Glu Pro Lys Met Val Ala His Asp Phe Thr Tyr Pro Leu			
210	215	220	
Gly His Ile Val Thr Gly Ser Phe Trp His Asn Leu Lys Glu Asn Ser			
225	230	235	240
Leu His Leu Thr Ile Ala Asp Thr Gly Trp Gly Lys Ala Val Trp Gly			
245	250	255	
Lys Leu Tyr Gly Gln Trp Ile Ala Gly Ala Asn Val Phe Val Tyr Asp			
260	265	270	
His Glu Lys Phe Thr Pro Ala Asp Ile Leu Glu Lys Ile Gln Asn Tyr			

275	280	285
His Val Thr Ser Leu Cys Ala Pro Pro Thr Ile Phe Arg		Phe Leu Ile
290	295	300
His Glu Asp Leu Thr Lys Tyr Asp Leu Ser Ser		Leu Glu Tyr Cys Thr
305	310	315
Ile Ala Gly Ala Leu Asn Pro Ala Val Phe Asp Thr		Phe Lys Lys
325	330	335
Leu Thr Gly Ile Lys Leu Met Glu Gly Phe Gly Gln		Thr Glu Thr Thr
340	345	350
Leu Thr Val Ala Thr Phe Pro Trp Met Glu Pro Lys		Pro Gly Ser Met
355	360	365
Gly Val Pro Asn Pro Gln Tyr Asn Val Asp Leu Ile		Asp Tyr Glu Gly
370	375	380
Arg Ser Val Glu Ala Gly Glu Gln Gly Gln Ile Val		Ile Arg Thr Asp
385	390	395
Lys Gly Lys Pro Leu Gly Leu Phe Lys Glu Tyr Tyr		Arg Asp Ala Ser
405	410	415
Arg Thr His Glu Ala Trp His Asp Gly Ile Tyr Tyr		Gly Asp Val
420	425	430
Ala Trp Lys Asp Glu Asp Gly Tyr Leu Trp Phe Val		Gly Arg Ala Asp
435	440	445
Asp Val Ile Lys Ser Ser Gly Tyr Arg Ile Gly Pro		Phe Glu Val Glu
450	455	460
Ser Ala Leu Met Thr His Pro Ala Val Val Glu		Cys Ala Ile Thr Gly
465	470	475
Val Pro Asp Glu Ile Arg Gly Gln Val Val Lys		Ala Thr Ile Val Leu
485	490	495
Ala Lys Glu Tyr Arg Glu Arg Lys Gly Glu Asp Leu		Val Lys Glu Leu
500	505	510
Gln Asn His Val Lys Lys Val Thr Ala Pro Tyr Lys		Tyr Pro Arg Val
515	520	525
Ile Glu Phe Val Asp Glu Leu Pro Lys Thr Ile Ser		Gly Lys Ile Arg
530	535	540
Arg Val Glu Ile Arg Lys Asn Asp Glu Lys		
545	550	

&lt;210&gt; 6608

&lt;211&gt; 334

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6608

Ile Met Glu Phe Leu Thr Asn Glu Lys		Leu Thr Ile Val Gly Ala Ala
1	5	10
Gly Met Ile Gly Ser Asn Met Ala Gln Thr Ala		Leu Met Met Lys Leu
20	25	30
Thr Pro Asn Ile Cys Leu Tyr Asp Pro Tyr Ala		Pro Ala Leu Glu Gly
35	40	45
Val Ala Glu Glu Leu Tyr His Cys Ala Phe		Glu Gly Val Asn Leu Thr
50	55	60
Tyr Thr Ser Asp Ile Lys Glu Ala Leu Ser		Gly Ala Lys Tyr Ile Val
65	70	75
Ser Ser Gly Gly Ala Ala Arg Lys Ala Gly		Met Thr Arg Glu Asp Leu
85	90	95
Leu Lys Gly Asn Ala Glu Ile Ala Ala Gln		Phe Gly Lys Asp Ile Arg
100	105	110
Gln Tyr Cys Pro Asp Val Lys His Val Val Val		Val Phe Asn Pro Ala
115	120	125
Asp Ile Thr Gly Leu Ile Val Leu Leu Tyr		Ala Gly Leu Lys Pro Ser

130	135	140
Gln Val Ser Thr Leu Ala Ala Leu Asp Ser Thr Arg Leu Gln Asn Glu		
145	150	155
Leu Val Lys Tyr Leu His Ile Pro Ala Ser Glu Ile Val Asn Cys Arg		160
165	170	175
Thr Tyr Gly His Gly Glu Gln Met Ala Val Phe Ala Ser Thr Thr		
180	185	190
Lys Val Gln Gly Glu Ala Leu Thr Lys Ile Ile Asp Thr Pro Arg Met		
195	200	205
Pro Met Gln Asp Trp Glu Asp Leu Lys Val Arg Val Ile Gln Gly Gly		
210	215	220
Lys His Ile Ile Asp Leu Arg Gly Arg Ser Ser Phe Gln Ser Pro Ala		
225	230	235
Tyr Leu Ser Ile Glu Met Ile Ala Ala Ala Met Gly Gly Gln Pro Phe		240
245	250	255
Arg Trp Pro Ala Gly Thr Tyr Val Ser Asp Lys Lys Phe Asp His Ile		
260	265	270
Leu Met Ala Met Glu Thr Ser Ile Thr Lys Glu Gly Val Ser Tyr Lys		
275	280	285
Glu Ile Gln Gly Thr Pro Glu Glu Gln Lys Glu Met Glu Glu Ser Tyr		
290	295	300
Ala His Leu Cys Lys Leu Arg Asp Glu Val Ile Ala Met Gly Ile Leu		
305	310	315
Pro Glu Ile Asn Lys Trp His Glu Leu Asn Lys His Ile Asn		320
325	330	

&lt;210&gt; 6609

&lt;211&gt; 760

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6609

Met Asn Asn Ser Lys Ile Ile Asn Val Arg Leu Met Lys Lys Val Leu		
1	5	10
Val Leu Val Leu Ser Phe Leu Ser Val Thr Ala Phe Ala Gln Asn Ile		15
20	25	30
Thr Val Lys Gly Ile Val Lys Asp Gly Thr Gly Glu Pro Ile Ile Gly		
35	40	45
Gly Ser Val Leu Val Lys Gly Ser Ser Ile Gly Thr Val Thr Asp Val		
50	55	60
Asp Gly Asn Tyr Thr Leu Ser Asn Val Pro Ala Asp Gly Val Leu Glu		
65	70	75
Phe Ser Tyr Ile Gly Met Lys Lys Gln Asp Val Lys Val Ser Gly Lys		80
85	90	95
Thr Val Ile Asn Val Val Leu Gln Glu Asp Thr Gln Ile Leu Asp Glu		
100	105	110
Val Val Val Thr Ala Leu Gly Leu Lys Arg Glu Gln Lys Ala Leu Gly		
115	120	125
Tyr Ala Val Thr Glu Val Lys Gly Asp Asp Leu Lys Ala Ala Asn Thr		
130	135	140
Ile Ser Pro Val Ala Ala Leu Gln Gly Lys Val Ala Gly Val Glu Ile		
145	150	155
Arg Gln Ser Asp Gly Gly Met Phe Gly Ala Thr Lys Ile Gln Ile Arg		160
165	170	175
Gly Ala Ser Thr Leu Lys Gly Asn Asn Gln Pro Ile Tyr Val Ile Asp		
180	185	190
Gly Val Ile Leu Asp Asn Ser Thr Ser Gly Asn Thr Thr Met Asp Trp		
195	200	205
Asp Ala Gly Asn Asn Asn Ala Asn Asp Tyr Gly Asn Glu Leu Lys Asn		

210	215	220
Leu Asn Pro Asp Asp Phe Glu Thr Val Ser Val	Leu Lys Gly Ala Ala	
225	230	235
Ala Thr Ala Leu Tyr Gly Ser Arg Gly	Leu Asn Gly Ala Val Val	Ile
245	250	255
Thr Thr Lys Ser Gly Lys Gly Phe Lys	Gly Phe Gly Val Ser Val	Ser
260	265	270
Gln Thr Phe Gly Ile Asp His Ala	Tyr Arg Thr Pro Asp Ile Gln	Thr
275	280	285
Glu Tyr Gly Val Gly Leu Met Pro Gly Trp Lys	Asp Thr Asp Asn Asn	
290	295	300
Gly Ser Val Trp Asp Pro Phe Gln Phe Lys	Leu Asp Asp Lys Gly Asp	
305	310	315
Arg Thr Leu Ile Gly Ala Gly Ser Tyr Gly	Trp Gly Pro Lys Tyr Asp	
325	330	335
Gly Gln Pro Ile Arg Asn Tyr Asp Gly	Thr Trp Thr Asn Tyr Ser Pro	
340	345	350
His Lys Asn Asn Met Leu Asp Leu Tyr Gln	Leu Gly Leu Asn Ser Asn	
355	360	365
Thr Asn Val Ala Ile Arg Gly	Gly Asn Asp Lys Thr Ser Tyr	Tyr Thr
370	375	380
Ser Leu Ser Tyr Lys Lys Ala Arg Ser	Thr Ser Glu Lys Asn Thr	Phe
385	390	395
Glu Arg Tyr Ser Phe Leu Leu Lys Gly	Ser His Lys Ile Ser Asp Arg	
405	410	415
Val Glu Val Ser Ala Ala Met Ser Phe	Thr Asn Ser Asn Pro Lys Asn	
420	425	430
Ser Pro Arg Thr Val Gly Glu Arg	Phe Val Asn Pro Asn Gly Thr	Ile
435	440	445
Met Thr Pro Met Leu Asp Val Asn Tyr	Phe Arg Asp Lys Tyr Leu	Gly
450	455	460
Glu His Gly Gly Leu Ala Ser Thr	Ser Tyr Gly Asp Lys Tyr Gly	Ser
465	470	475
Val Pro Gly Arg Asp Leu Phe Phe	Met Ile Asp Lys Tyr Asp Tyr	Ser
485	490	495
Gln Lys Glu Thr Val Val Arg Pro Gln	Met Glu Val Asn Val Gln	Ile
500	505	510
Leu Asp Trp Leu Arg Phe Lys Ala Asp	Ala Asn Met Asn Tyr Tyr	Tyr
515	520	525
Thr Lys Phe Glu Glu Lys Gln	Leu Gly Ser Gly Tyr Ala Asn	Glu Gly
530	535	540
Gly Lys Tyr Thr Met Gly Gln Thr	Thr Lys Glu Gln Ala Thr	Phe Gly
545	550	555
Gly Thr Phe Thr Val Asn Lys Gln	Ile Gln Asp Phe Ser Val	Gly Gly
565	570	575
Phe Ala Arg Tyr Glu Tyr Tyr	Thr Ser Arg Ser Glu Ala	Tyr Lys Val
580	585	590
Tyr Thr Asp Gly Gly Met Val Val	Pro Gly Gln Trp Phe Val	Asp Asn
595	600	605
Ser Lys Asn Pro Lys Lys Ser Glu	Ala Ser Ile Ser Asn Thr	Lys Arg
610	615	620
Met Met Ser Ala Val Phe Ala Leu Asn	Leu Gly Trp Lys Asn Gln	Val
625	630	635
Tyr Leu Asp Val Thr Gly Arg Asn Asp	Trp Ser Ser Ser Leu	Val Tyr
645	650	655
Gln Asn Gly Met Gly Thr Tyr Ser	Tyr Phe Tyr Pro Ser Val	Ser Gly
660	665	670
Ser Trp Leu Leu Asn Glu Thr Phe Asp	Leu Pro His Trp Ile	Thr Phe
675	680	685

Ala Lys Val Arg Gly Ser Trp Ala Gln Val Gly Asn Asp Thr Asp Pro  
 690 695 700  
 Tyr Tyr Val Asn Ser Val Tyr Gly Phe Glu Thr Lys Glu Met Tyr Asp  
 705 710 715 720  
 Gly Asn Ile Tyr Val Asn Thr Leu Asp Lys Thr Met Lys Ser Leu Lys  
 725 730 735  
 Leu Lys Pro Glu Arg Lys Asn Ala Trp Glu Val Gly Leu Asp Leu Arg  
 740 745 750  
 Leu Phe Asp Ser Ser Leu Thr Leu  
 755 760

&lt;210&gt; 6610

&lt;211&gt; 114

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6610

Ile Cys Ile Ser Val Pro Gln Leu Ile Ala Cys Cys Gly Leu Asp Cys  
 1 5 10 15  
 Glu Asn Cys Asp Ala Arg Ile Ala Thr Val Arg Asp Asp Asn Glu Leu  
 20 25 30  
 Arg Glu Lys Thr Ala Gln Lys Trp Ser Ile Met Asn Asn Ala Pro Glu  
 35 40 45  
 Ile Thr Pro Ala Thr Ile Asn Cys Met Gly Cys Arg Thr Asp Gly Ala  
 50 55 60  
 Lys Phe Ala Tyr Cys Asn Asp Tyr Cys Pro Ile Arg Lys Cys Val Asn  
 65 70 75 80  
 Glu Lys Gly Tyr Asn Thr Cys Gly Asp Cys Lys Glu Leu Asp Asp Cys  
 85 90 95  
 Gln Ile Val Gly Ala Ile Phe Gln His Ala Pro Asp Ala Lys Glu Asn  
 100 105 110  
 Leu Leu

&lt;210&gt; 6611

&lt;211&gt; 321

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6611

Ile Val Thr Ser Leu Lys Leu Glu Asp Arg Leu Met Lys Asp Pro Phe  
 1 5 10 15  
 Lys Leu Asn Val Lys Ser Ile Met Ala Leu Tyr Glu Leu Phe Pro Thr  
 20 25 30  
 Glu Glu Ala Cys Ile Lys His Leu Glu Ala Ile Asn Trp His Asp Lys  
 35 40 45  
 Pro Val Ser Pro Phe Asp Lys Thr Ser Arg Val Tyr Lys Leu Lys Ser  
 50 55 60  
 Gly Lys Tyr Arg Cys Lys Asn Thr Gly Lys Asn Phe Thr Val Arg Thr  
 65 70 75 80  
 Gly Thr Met Phe Glu Lys Thr Lys Ile Ser Leu Arg Lys Trp Phe Ile  
 85 90 95  
 Ala Ile Trp Leu Val Thr Asn His Lys Ile Gly Leu Ser Ser Tyr Gln  
 100 105 110  
 Leu Ala Asn Asp Ile Glu Val Thr Gln Lys Thr Ala Trp Tyr Met Leu  
 115 120 125  
 His Lys Ile Arg His Ala Met Arg Leu Ala Asn Glu Asn Ile Leu Glu  
 130 135 140  
 Glu Ala Val Glu Ile Asp Glu Thr Val Val Gly Lys Asn Gly Asn

145	150	155	160
Arg His Lys Asp Lys Lys Val Pro His Ser Gln Gly Arg Ser His Lys			
165	170	175	
Asp Lys Phe Pro Val Val Gly Met Ile Gln Arg Glu Asn Leu Met Asn			
180	185	190	
Ala Arg Ala Thr Pro Asp Thr Lys Ser Asp Thr Leu Ser Ala Phe Ile			
195	200	205	
Lys Glu Tyr Ile His Pro Asp Ala Ile Ile Tyr Thr Asp Glu Tyr Asn			
210	215	220	
Ala Tyr Asp Gln Ile Gly Phe Ser Tyr Thr Arg Phe Tyr Val Asp His			
225	230	235	240
Ser Lys Lys Leu Tyr Ser Tyr Asp His Ile Thr Thr Asn Arg Ile Glu			
245	250	255	
Gly Ala Trp Thr His Phe Lys Arg Met Val Lys Gly Thr Tyr Arg Thr			
260	265	270	
Leu Leu Lys Tyr Leu Gln Lys Tyr Val Asp Glu Phe Val Tyr Arg			
275	280	285	
Tyr Asn Leu Arg Asp Ile Ser Asn Ser Asp Arg Leu Asn Cys Phe Leu			
290	295	300	
Cys Cys Ala Asp Thr Arg Tyr Thr Tyr Lys Gln Ile Arg Lys Ser Ala			
305	310	315	320
Ala			

&lt;210&gt; 6612

&lt;211&gt; 60

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6612

Arg Thr Gln Ser Phe Lys Lys Thr Lys Arg Thr Asn His Ala Ile Ala			
1	5	10	15
Lys Ser Met Arg Phe Tyr Ser Ile Pro Ile Phe Gln Ala Gly Lys Asn			
20	25	30	
Arg Phe Ser Ala Phe Ser Lys Tyr Lys Met Thr Asn Arg Leu Leu Ile			
35	40	45	
Arg Tyr Ser Thr His Asp Phe Gln Cys Cys Ile Gln			
50	55	60	

&lt;210&gt; 6613

&lt;211&gt; 138

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6613

Pro Thr Arg Ser His Thr Met Lys Leu Arg Lys Pro Phe Arg Ile Leu			
1	5	10	15
Arg Asn Leu Ile Leu Phe Phe Ile Ser Ser Ile Gly Ala Val Ile			
20	25	30	
Phe Tyr Arg Phe Val Pro Val Tyr Val Thr Pro Leu Met Ile Ile Arg			
35	40	45	
Ser Val Gln Gln Leu Val Ser Gly Glu Lys Val Val Cys Lys His Thr			
50	55	60	
Trp Val Pro Phe Asp Lys Ile Ser Pro Ser Leu Pro Met Ala Val Ile			
65	70	75	80
Ala Ser Glu Asp Asn Arg Phe Ala Ser His Asn Gly Phe Asp Met Ile			
85	90	95	
Glu Ile Lys Lys Ala Met Lys Glu Asn Glu Thr Arg Lys Lys Glu Thr			
100	105	110	

Gly Cys Gln Tyr His Gln Pro Ala Asp Ser Glu Lys Arg Leu Ser Leu  
 115 120 125  
 Ala Thr Ile Phe Val Asp Thr Lys Arg Ile  
 130 135

<210> 6614

<211> 333

<212> PRT

<213> B.fragilis

<400> 6614

Glu Ser Pro Ser Thr Pro Cys Ser Cys Leu Ser Arg Arg Ser Thr Arg  
 1 5 10 15  
 Asn Met Tyr Cys Lys Pro His Arg Pro Gly Asn Thr Pro Gln Val Pro  
 20 25 30  
 Asp Asn Lys Gly Lys Cys Thr Arg Leu Val Asp Tyr Leu Ser Lys Glu  
 35 40 45  
 Ser Gln Val Glu Arg Pro Tyr Tyr Asp Asn Phe Phe Ser Gln Gln Lys  
 50 55 60  
 Asp Tyr Val Ile Pro Leu Thr Val Lys Asn His Ile Asp Asn Asn His  
 65 70 75 80  
 Arg Thr Leu Lys Ser Asn Asp Asp Lys Phe Tyr Met Leu Ser Ile Asn  
 85 90 95  
 Pro Ser Gly Asp Glu Gln Arg His Leu Ile Glu Arg Val Thr Gly Arg  
 100 105 110  
 Lys Val Gly Glu Phe Ser Glu Leu Thr Pro Gly Glu Gln Glu Ser Val  
 115 120 125  
 Leu Ala Gln Met Lys Lys Phe Thr Arg Glu Cys Met Asp Glu Tyr Ala  
 130 135 140  
 Arg Asn Phe Tyr Arg Glu Lys Ile Lys Ser Gly Asp Asp Leu Val Trp  
 145 150 155 160  
 Tyr Gly Arg Val Glu Thr Glu Arg His Tyr Lys Asn Asp Asp Pro Glu  
 165 170 175  
 Val Lys Ala Gly Arg Ala Lys Ala Gly Asp Lys Lys Pro Gly Leu Gln  
 180 185 190  
 Leu His Val His Val Ile Val Ser Arg Met Asp Arg Thr Gln Thr Val  
 195 200 205  
 Ser Leu Ser Pro Leu Ser Lys Ser Arg Gly Asn Arg Gln Val Leu Glu  
 210 215 220  
 Gly Arg Glu Val Val Val Gly Phe Asp Arg Ser Gln Trp Ser Ser Arg  
 225 230 235 240  
 Cys Ala Ser Arg Phe Asn Gln Leu Tyr Asp Tyr Phe Pro Asn Tyr Tyr  
 245 250 255  
 Ser Arg Asp Glu Ser Leu Arg Lys Tyr Ser Glu Asn Trp Gln Ala Lys  
 260 265 270  
 Asn Glu Leu Lys Asn Glu Ala Val Ser Lys Leu Lys Gln Glu Val Leu  
 275 280 285  
 Lys Gly Glu Leu Lys Glu Glu Arg Arg Leu Tyr Ala Asn Thr Phe Arg  
 290 295 300  
 Ile Tyr Arg Phe Val Val Asn Pro Arg Lys Ala Ile Ile Gln Glu Leu  
 305 310 315 320  
 Lys Arg Leu Gly Thr Asp Leu Leu Ser Gly Arg Asp Leu  
 325 330

<210> 6615

<211> 322

<212> PRT

<213> B.fragilis

&lt;400&gt; 6615

Thr Ala Thr Pro Tyr Lys Asn Lys Asp Trp Gln Trp Asp Val Ala Met  
 1 5 10 15  
 Thr Tyr Thr Lys Asn Lys Asn Thr Ile Ile Ser Leu His Glu Asn Val  
 20 25 30  
 Ala Asp Tyr Ile Ala Leu Ser Gly Tyr Ala Asn Asp Tyr Asp Tyr His  
 35 40 45  
 Ile Gly Ser Val Ala Lys Val Gly Gly Asp Tyr Gly Leu Leu Met Ser  
 50 55 60  
 Asp Ile Leu Pro Ala Lys Asn Glu Lys Gly Glu Thr Leu Leu Glu Trp  
 65 70 75 80  
 Asp Asp Ser Trp Arg Gly Ala Tyr Glu Ala Arg Ser Gly Lys Val Gln  
 85 90 95  
 Glu Val Gly Lys Met Thr Pro Asp Phe Leu Gly Ser Leu Ser Thr Thr  
 100 105 110  
 Leu Ser Trp Lys Asn Leu Ser Leu His Ile Ala Thr Asp Met Arg Phe  
 115 120 125  
 Gly Gly Leu Val Ala Ser Tyr Ser Asn Leu Tyr Gly Thr Gln Ala Gly  
 130 135 140  
 Trp Ile Lys Ser Ser Leu Lys Trp Arg Asp Pro Glu His Gly Gly Leu  
 145 150 155 160  
 Ser Trp Thr Ser Gln Tyr Gly Asp Ser Lys Gly Ile Ser Tyr Gly Asp  
 165 170 175  
 Gly Val Ile Pro Asp Gly Val Phe Lys Asn Gly Thr Phe Ala Thr Leu  
 180 185 190  
 Val Asp Gly Thr Lys Met Asp Val Ser Gly Met Ser Tyr Lys Gln Leu  
 195 200 205  
 Val Ala Glu Gly Lys Leu Glu Pro Thr His Ala Gly Thr Tyr His Val  
 210 215 220  
 Asn Arg Ala Ala Trp Gly Gln Asn Thr Ile Phe Asp Thr Trp Val His  
 225 230 235 240  
 Glu Leu Asn Tyr Ile Ala Leu Arg Glu Ile Thr Leu Ser Tyr Arg Phe  
 245 250 255  
 Pro Lys Ser Val Ala Ser Lys Phe Gly Ala Gln Gly Leu Gly Leu Ser  
 260 265 270  
 Phe Ser Ala Arg Asn Leu Gly Tyr Leu Tyr Asn Ser Leu Pro Asn His  
 275 280 285  
 Leu Asn Pro Glu Ser Val Arg Gly Asn Thr Ala Ser Glu Phe Arg Ile  
 290 295 300  
 Arg Gly Tyr Glu Pro Tyr Thr Ala Asn Tyr Met Met Thr Ile Asn Val  
 305 310 315 320  
 Asp Phe

&lt;210&gt; 6616

<211> 288  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 6616

Glu Leu Tyr Pro Asp Ile Met Asn Arg Ile Glu Lys Asn Lys Thr Gln  
 1 5 10 15  
 Thr Asp Gln Ala Trp Asn Lys Leu His Asn Arg Leu Glu Thr Asp Gly  
 20 25 30  
 Leu Leu Pro Thr Val Thr Glu Arg Arg Phe Ala Thr Arg Pro Thr Val  
 35 40 45  
 Trp Ile Gly Ile Ala Ala Ile Ala Ala Ile Ile Ser Leu Cys Val Tyr  
 50 55 60  
 Leu Pro Thr Val Leu Arg Thr Asp Arg His Leu Ser Gly Gly Glu Leu

65	70	75	80
Leu Val Lys Ala Asn Lys	Glu Glu Ser Ile Leu Val Thr Thr	Leu Glu	
	85	90	95
Asp Gly Ser Val Val Tyr	Leu Ser Glu Gln Thr Ser Leu Glu Tyr Pro		
	100	105	110
Lys His Phe Ser Lys Lys	Arg Arg Glu Val Ser Leu Lys Gly Asn Ala		
	115	120	125
Leu Phe Asp Ile Ala Gly	Asn Arg Ala Arg Pro Phe Phe Ile Glu Thr		
	130	135	140
Gly Lys Val Gln Ile Glu	Val Ile Gly Thr Ala Phe His Val Arg Asn		
	145	150	155
Ser Gly Asn Ser Pro Phe	Glu Leu Ala Val Gln Arg Gly Glu Val Lys		
	165	170	175
Val Thr Gln Lys Gln Asn	Gly Gln Glu Ile His Val Lys Ala Gly Glu		
	180	185	190
Thr Ala Thr Leu Leu Gly	Asp Glu Trp Gln Leu Thr Val Thr Glu Asn		
	195	200	205
Ser Glu Gln Phe Thr Arg	Tyr Met Gln Asn Met Arg Phe Lys Asp Glu		
	210	215	220
Gln Leu Asp His Ile Leu His	Ala Ile Asn Leu Arg Gln Thr Glu Ile		
	225	230	235
His Leu Gln Ser Ser Pro	Glu Leu Gly Lys His Val Leu Thr Val Ser		
	245	250	255
Phe Ser Glu Asp Ser Pro	Glu Lys Met Ala Glu Leu Ile Gly Leu Ala		
	260	265	270
Leu Asn Leu Lys Cys Thr Arg	Asn Gln Asn Ile Ile Thr Leu Ser Glu		
	275	280	285

&lt;210&gt; 6617

&lt;211&gt; 148

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6617

Ala Leu Phe Pro Leu Ala Pro Ser Leu Pro Leu Ala Pro Ser Phe Pro			
1	5	10	15
Ala Ala Pro Ser Leu Pro Leu Ile Pro Ser Phe Pro Leu Ala Pro Ser			
20	25	30	
Phe Pro Leu Ala Pro Ser Leu Pro Leu Met Pro Ser Leu Pro Leu Ala			
35	40	45	
Pro Ser Leu Pro Tyr Ala Arg Ile Pro Val Ser Phe Pro Leu Ile Tyr			
50	55	60	
Gln Phe Pro Leu Val Pro Ile Ile Thr Ser Gly Asp Leu Pro Ser Leu			
65	70	75	80
Pro Ile Ala Ala Phe Pro Val Ser Phe Pro Leu Ile Thr Gln Phe Pro			
85	90	95	
Phe Ser Pro Ile Val Thr Val Gly Val Val Pro Ala Thr Pro Ser Ser			
100	105	110	
Pro Leu Glu Gly Phe Pro Val Ser Thr Pro Ser Ile Asn Gln Leu Pro			
115	120	125	
Leu Ser Pro Ile Val Thr Thr Gly Gly Thr Ala Ser Ser Pro Phe Cys			
130	135	140	
Pro Ser Leu Pro			
145			

&lt;210&gt; 6618

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6618

Tyr	Gly	Pro	Phe	Glu	Gly	Leu	Leu	Arg	Pro	Gly	Glu	His	Arg	Ala	Glu
1				5				10				15			
Trp	Phe	Pro	Val	Phe	Gly	Gln	Leu	Leu	Phe	Asp	Ala	Thr	Val	Val	Asn
				20				25				30			
Ser	Thr	Glu	Tyr	Ala	His	Val	Lys	Gly	Tyr	Gly	Val	Arg	His	Asn	Pro
				35			40				45				
Cys	Cys	Ser	Gln	Val	Arg	Leu	Ile	Ile	Phe	His	Glu	Tyr	Met	Val	Tyr
				50			55				60				
Arg	Ala	Asn	Val	Asn	Val	Pro	Val	Ile	Pro	Glu	Leu	Phe	Glu	Thr	Ala
				65			70			75			80		
Lys	Arg	Ser	Ile	Ile	Val	Leu	Gly	Gly	Ala	Gly	Val	Val	Gln	Leu	Pro
				85			90						95		

&lt;210&gt; 6619

<211> 466  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6619

Gly	Leu	Gln	Pro	Glu	Glu	Ser	Arg	Ile	Phe	Ala	Thr	His	Phe	Leu	Leu
1				5				10				15			
Asn	Asn	Ile	Met	Gln	Gly	Ile	Lys	Asn	Leu	Thr	Gln	Gly	Pro	Ile	Asn
				20				25				30			
Lys	Gln	Leu	Phe	Asn	Leu	Ala	Met	Pro	Ile	Met	Ala	Thr	Ser	Phe	Ile
				35			40				45				
Gln	Met	Ala	Tyr	Ser	Leu	Thr	Asp	Met	Ala	Trp	Val	Gly	Arg	Leu	Gly
				50			55				60				
Ser	Glu	Ala	Val	Ala	Ala	Val	Gly	Ser	Val	Gly	Ile	Leu	Thr	Trp	Met
				65			70			75			80		
Ser	Gly	Ser	Ile	Ser	Leu	Leu	Asn	Lys	Val	Gly	Ser	Glu	Val	Ser	Val
				85			90					95			
Gly	Gln	Ser	Ile	Gly	Ala	Gln	Asn	His	Glu	Asp	Ala	Arg	Asn	Phe	Ala
				100			105				110				
Ser	His	Asn	Ile	Thr	Ile	Ala	Leu	Ile	Ile	Ser	Leu	Cys	Trp	Gly	Gly
				115			120				125				
Leu	Leu	Phe	Leu	Leu	Ala	Arg	Pro	Ile	Ile	Gly	Ile	Tyr	Glu	Leu	Glu
				130			135				140				
Ala	His	Ile	Thr	Glu	Asn	Ala	Ile	Ala	Tyr	Leu	Arg	Ile	Ile	Ser	Thr
				145			150			155			160		
Gly	Leu	Pro	Phe	Ile	Phe	Leu	Ser	Ala	Ala	Phe	Thr	Gly	Ile	Tyr	Asn
				165			170				175				
Ala	Ala	Gly	Arg	Ser	Lys	Ile	Pro	Phe	Tyr	Ile	Ser	Gly	Thr	Gly	Leu
				180			185				190				
Val	Leu	Asn	Ile	Leu	Leu	Asp	Pro	Leu	Phe	Ile	Phe	Gly	Phe	Gly	Leu
				195			200				205				
Gly	Thr	Asn	Gly	Ala	Ala	Tyr	Ala	Thr	Trp	Ile	Ser	Gln	Ala	Ala	Val
				210			215				220				
Phe	Gly	Ile	Phe	Ile	Tyr	Gln	Leu	Arg	Cys	Arg	Asp	Ala	Leu	Leu	Gly
				225			230			235			240		
Arg	Phe	Tyr	Phe	Phe	Thr	Arg	Leu	Lys	Lys	Lys	Tyr	Thr	His	Arg	Ile
				245			250				255				
Leu	Lys	Leu	Gly	Leu	Pro	Val	Ala	Thr	Leu	Asn	Thr	Leu	Phe	Ala	Phe
				260			265				270				
Val	Asn	Met	Phe	Leu	Cys	Arg	Thr	Ala	Ser	Glu	Gln	Gly	Gly	His	Ile
				275			280				285				
Gly	Leu	Met	Thr	Phe	Thr	Thr	Gly	Gly	Gln	Ile	Glu	Ala	Ile	Thr	Trp
				290			295				300				

Asn Thr Ser Gln Gly Phe Ser Thr Ala Leu Ser Ala Phe Ile Ala Gln  
 305 310 315 320  
 Asn Tyr Ala Ala Gly Arg Thr Asp Arg Val Ile Lys Ser Trp His Met  
 325 330 335  
 Thr Leu Leu Met Thr Ser Ile Phe Gly Thr Leu Cys Thr Leu Leu Phe  
 340 345 350  
 Val Phe Phe Gly Asn Glu Ile Phe Ala Leu Phe Val Pro Glu Gln Ala  
 355 360 365  
 Ala Tyr Glu Ala Gly Gly Val Phe Leu Arg Ile Asp Gly Tyr Ser Gln  
 370 375 380  
 Leu Phe Met Met Leu Glu Ile Thr Thr Gln Gly Val Phe Tyr Gly Ile  
 385 390 395 400  
 Gly Arg Thr Ile Pro Pro Ala Ile Ile Ser Ile Thr Cys Asn Tyr Met  
 405 410 415  
 Arg Ile Pro Leu Ala Ile Leu Phe Val Arg Met Gly Met Gly Val Glu  
 420 425 430  
 Gly Ile Trp Trp Ala Val Cys Val Thr Thr Val Ala Lys Gly Leu Ile  
 435 440 445  
 Leu Ala Gly Trp Phe Ala Leu Ile Lys Arg Lys Val Leu Ser Arg Pro  
 450 455 460  
 Ile Leu  
 465

<210> 6620  
 <211> 78  
 <212> PRT  
 <213> B.fragilis

<400> 6620  
 Leu Pro Ser Thr Thr His Asp Ile Asp Thr His Met Ile Thr Ala Thr  
 1 5 10 15  
 Met Glu Gly Asn Ala Ala Ala Gln Asp Phe Leu Ser His Leu Pro Leu  
 20 25 30  
 Lys Ala Thr Leu Pro Phe Ile Pro Arg Gly Val Ala Leu Gln Phe Ser  
 35 40 45  
 Ala Phe Leu Thr Pro Thr His Leu Ser Ser Glu Lys Phe Val Ala Val  
 50 55 60  
 Val Leu Met Thr Asn Ser Phe Val Thr Val Cys Glu Trp Gln  
 65 70 75

<210> 6621  
 <211> 401  
 <212> PRT  
 <213> B.fragilis

<400> 6621  
 Ser Met Ala Thr Val Lys Ala Lys Phe Arg Pro Ser Thr Val Lys Asp  
 1 5 10 15  
 Arg Pro Gly Thr Ile Val Tyr Val Val Ile His Arg Arg Thr Val Arg  
 20 25 30  
 Gln Ile Thr Thr Gly Tyr Lys Val Phe Pro His Glu Trp Asp Glu Glu  
 35 40 45  
 Arg Ser Lys Pro Val Leu Ala Asp Asn Val Arg Arg Thr Thr Val Met  
 50 55 60  
 Gln Ser Ile Thr Arg Lys Leu Gln Ser Asp Met Lys Arg Leu Tyr Lys  
 65 70 75 80  
 Ile Ile Glu Arg Phe Asp Lys Gln Cys Arg Ser Tyr Ser Ser Asp Asp  
 85 90 95  
 Val Val Ala Glu Phe Arg His Ser Glu Glu Gly Asp Ser Phe Phe Asn

100	105	110
Phe Met Glu Gly Val Ile Glu Arg Leu Arg Gln Leu Asn His Ser Gly		
115	120	125
Thr Ala Lys Asn Tyr Asn Ala Ala Leu Gly Ser Phe Lys Gln Phe Arg		
130	135	140
Asp Asn Arg Asp Ile Tyr Ile Gly Ser Ile Asp His Ile Leu Met Glu		
145	150	155
Asp Tyr Gln Ala Tyr Leu Thr Ala Thr Gly Ile Val Pro Asn Ser Ile		
165	170	175
Ser Phe Tyr Met Arg Ile Leu Arg Ala Val Tyr Asn Arg Gly Val Glu		
180	185	190
Gln Glu Leu Thr Glu Asp Arg Lys Pro Phe Arg Thr Val Phe Thr Gly		
195	200	205
Thr Glu Lys Thr Leu Lys Arg Ala Ile Ser Ile Asn Asp Ile Arg Arg		
210	215	220
Ile Arg Asn Leu Asp Leu Ser Leu Lys Pro Gly Leu Glu Phe Ala Arg		
225	230	235
Asp Leu Phe Leu Phe Leu Cys Arg Gly Met Ser Phe Ile Asp		
245	250	255
Ala Ala Phe Leu Lys Lys Ala Asp Ile Gln Asn Gly Val Leu Thr Tyr		
260	265	270
Arg Arg His Lys Thr Gly Gln Leu Leu His Ile Lys Val Ile Lys Gln		
275	280	285
Ile Glu Glu Ile Val Asp Arg His Ser Asp Lys Glu Ser Pro Tyr Leu		
290	295	300
Phe Pro Val Ile Thr Arg Pro Gly Glu Asn Glu Arg Lys Gln Tyr Glu		
305	310	315
Thr Ala Leu His His Val Asn Lys Ser Leu Lys Ile Ile Ala Gly Met		
325	330	335
Ile Lys Leu Pro Val Ala Leu Thr Thr Tyr Thr Arg His Ala Trp		
340	345	350
Ala Thr Ile Ala Lys Ser Lys Asn Val Pro Val Asn Val Ile Ser Asp		
355	360	365
Ala Leu Gly His Asp Ser Ile Thr Thr Thr Gln Ile Tyr Leu Ala Ser		
370	375	380
Ile Asp Val Ser Val Ile Asp Lys Ala Asn Glu Leu Ile Ile Lys Asp		
385	390	395
Leu		400

&lt;210&gt; 6622

&lt;211&gt; 193

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6622

Arg Thr Leu Thr Pro Asp Ile Ser Pro Asn Met Leu Asn Asp Val Phe		
1	5	10
Ile Leu Thr Gln Ile Lys Glu Gly Asn Ile Lys Ala Phe Glu Thr Leu		
20	25	30
Phe Arg Gln Tyr Tyr Pro Leu Arg Leu Tyr Ala Ala Ser Ile Thr		
35	40	45
Gly Glu Pro Asp Val Ala Glu Glu Ile Val Glu Glu Leu Phe Tyr Val		
50	55	60
Phe Trp Lys Asp Arg Glu Lys Leu Glu Ile Phe His Ser Val Lys Asn		
65	70	75
Tyr Leu Tyr Arg Ser Val Arg Asn Arg Ser Ile Gln Tyr Cys Glu His		
85	90	95
Gln Asp Val Arg Arg Tyr Gln Asp Ala Ile Leu Ser Val Pro Val		

100	105	110
Asn Ile Ala Ser Pro Asp Pro Gln Glu Gln Ile Glu Tyr Lys Glu Leu		
115	120	125
Gln Gln Ile Ile Asn Arg Thr Leu Glu Lys Leu Pro Glu Arg Arg Leu		
130	135	140
His Ile Phe Arg Leu His His Thr Glu Gly Lys Lys Tyr Ser Glu Ile		
145	150	155
Ala Ser Leu Leu Ser Leu Ser Val Lys Thr Val Glu Lys Glu Met Thr		
165	170	175
Arg Ala Leu Arg Thr Leu Arg Lys Glu Ile Glu Asn Tyr Ile Gln Ile		
180	185	190

Ser

&lt;210&gt; 6623

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6623

Arg Lys Ala Thr Pro Tyr Thr Ile Asp Thr Asp Gly Gly Ser Arg Cys			
1	5	10	15
Leu Phe Ile Ser Glu Lys Val Met Glu Val Phe Asp Asp Gly Phe Asp			
20	25	30	
Tyr Arg Glu Val Ala Asn His Lys Glu Leu Thr Asp Leu Thr Val Ala			
35	40	45	
Leu Phe Ala Gly Met Ile Ser Ala Gln Pro Pro Arg Thr Ala Ala Met			
50	55	60	
Glu Val Pro Val Ala Cys Leu Arg Glu Asp Ala Arg Thr Gly Thr Asn			
65	70	75	80
Gly Asn Gly His Ala Val Ala Pro Val Lys Arg Lys Gly			
85	90		

&lt;210&gt; 6624

&lt;211&gt; 296

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6624

Ile Ala Glu Thr Met Glu Ile Phe Ser Leu Lys Glu His Val Ser Cys			
1	5	10	15
Tyr Asn Tyr Ala Lys Cys Ile Arg Glu Gly Phe Ser Tyr Tyr Glu Ser			
20	25	30	
Ser Lys Thr Glu Thr Asp Glu Gly Pro His Glu Thr Asp Cys Ile Leu			
35	40	45	
Phe Val Met Glu Gly Glu Leu Glu Leu Ser Cys Asn Gly Glu Arg Ile			
50	55	60	
Lys Leu Pro Ala Gly Asn Met Ile Cys Cys Ser Arg Glu Ser Met Tyr			
65	70	75	80
Arg Val Phe Ser Gln Gly Lys Met Ser Ile Val Ile Ala Gln Phe Asp			
85	90	95	
Asn Ala Val Gln Ser Cys Glu Lys Val Ser Phe Ser Gln Leu Asn Ser			
100	105	110	
Leu Asn Ser Ser Gly Glu Lys Gly Ile Tyr Pro Leu Glu Ile Arg Asp			
115	120	125	
Arg Leu Gln Leu Phe Leu Lys Leu Leu Ile Gly Tyr Leu Gly Asp Gly			
130	135	140	
Ala Ser Cys Val His Phe His Glu Thr Lys Leu Lys Glu Leu Phe Trp			
145	150	155	160

Asn Ile Arg Phe Tyr Tyr Thr Arg Thr Glu Gln Ala Ser Phe Phe Arg  
                   165                  170                  175  
 Pro Ile Leu Gly Asn Asp His Glu Phe Lys Lys Lys Val Leu Asp Asn  
                   180                  185                  190  
 Tyr Arg Asn Ala Arg Thr Val Lys Glu Leu Ala Gln Met Cys Glu Ser  
                   195                  200                  205  
 Ser Leu Ser Thr Phe Lys Arg Lys Phe Phe Lys Glu Phe Arg Glu Pro  
                   210                  215                  220  
 Ala Ser Glu Trp Leu Gln Lys Gln Met Asn Ser Ile Ile Lys Tyr Lys  
                   225                  230                  235                  240  
 Leu Ala Asp Glu Asp Ile Pro Ile Arg Asn Ile Ala Asp Glu Leu His  
                   245                  250                  255  
 Phe Ser Ser Gln Pro Gln Phe Cys Arg Tyr Cys Lys Arg Asn Phe Gly  
                   260                  265                  270  
 Tyr Thr Pro Gly Glu Trp Arg Lys Leu Leu Lys Asn Arg Asp Lys Thr  
                   275                  280                  285  
 Pro Arg Arg Pro Ser Gly Arg Val  
                   290                  295

&lt;210&gt; 6625

&lt;211&gt; 123

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6625

Pro Tyr Arg Thr Arg Gln Ser Leu Gln Gln Ile Glu Cys Arg Leu Met  
 1                  5                  10                  15  
 Ile Lys Cys Asp Pro Leu Cys Gly Asn Ser Thr Ile Ser Lys Val Ser  
                   20                  25                  30  
 Gly Gly Ile Cys Lys Thr Thr Lys Val Asn Phe Pro Val Tyr Gly Leu  
                   35                  40                  45  
 Ser Glu Asn Lys Arg Thr Arg Tyr Pro Met Ile Ala Ala Leu Ile Asp  
                   50                  55                  60  
 Arg Phe Asn Arg Lys Phe Leu Ala Ile His Met Leu Pro Tyr Leu Ile  
                   65                  70                  75                  80  
 Leu Thr Ile Glu Tyr Ile Ala Arg Arg Glu Ile Leu Ile Asp Ser His  
                   85                  90                  95  
 Leu Val Leu Tyr Ile Leu Ile Gly Cys Leu Ala Val Glu Ala Asp Met  
                   100                  105                  110  
 Gly Ala Val Ile Pro Tyr Val Asp Ser Gly Gly  
                   115                  120

&lt;210&gt; 6626

&lt;211&gt; 162

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6626

Ile Ile Met Thr Ser Lys Asp Phe Ile Glu Ala Glu Ala Gly Asn Asn  
 1                  5                  10                  15  
 Gly Ser Ile Ile Leu Tyr Arg Glu Gly Leu Phe Trp Lys Ala Tyr Glu  
                   20                  25                  30  
 Lys Ser Ala Tyr Ala Val Cys Thr Gln Ile Lys Pro Leu Lys Ala Ile  
                   35                  40                  45  
 Lys Arg Arg Leu Lys Ser Leu Gly Gly Glu Ile Val Ser Val Gly  
                   50                  55                  60  
 Phe Pro Cys Lys His Glu Gln Lys Tyr Ile Gly Ser Leu Glu His Met  
                   65                  70                  75                  80  
 Glu Thr Met Pro Asp Arg Leu Val Leu Arg Thr Leu Lys Pro Ile Asp

85	90	95
Gly Gln Arg Phe Glu Glu Trp Lys Gln Glu Leu Ser Ser Glu His Ser		
100	105	110
Val Val Gly Arg Arg Asp Ala Cys Val Gln Asn Leu Ser Arg Ser Asn		
115	120	125
Ile Pro His Gly Glu Leu Ile Met Arg Ile Arg Met Phe Asn Leu Ala		
130	135	140
Glu Ser Thr Pro Met Asp Cys Met Leu Phe Val Asn Glu Leu Lys Lys		
145	150	155
Met Leu		160

&lt;210&gt; 6627

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6627

Ala Val Ile Ala Phe Cys Lys Ile Glu Thr Ile Ile Lys Ile Ser Tyr			
1	5	10	15
Leu Gln Val Thr Gly Glu Glu Val Tyr Arg Ser Leu Ser Thr Tyr Pro			
20	25	30	
His Gly Leu Val Gly Leu Val Asp Glu Pro Asn Trp Ile Gln Lys Phe			
35	40	45	
Arg Asp Phe Cys Cys Leu Tyr Asn Tyr Lys Asn His Ala Ile Phe			
50	55	60	

&lt;210&gt; 6628

&lt;211&gt; 428

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6628

Cys Phe Val Ala Phe Met Arg Phe Leu Gln Pro Phe Ser Tyr Lys Gln			
1	5	10	15
Leu Ile Tyr Ile Ile Ile Cys Asn Ser Phe Ile Val Met Ala Thr Val			
20	25	30	
Lys Thr Val Leu Val Lys Gly Arg Cys Asn Ser Arg Gly Ala Tyr Pro			
35	40	45	
Leu Ala Val Gln Val Leu His Lys Arg Lys Lys Val Phe Tyr Thr			
50	55	60	
Gly Tyr Ser Ile Glu Pro Cys Gln Phe Asp Ser Ile Ser Gly Arg Val			
65	70	75	80
Ile Phe Asn Gly Met Tyr Thr Met Glu Thr Ile Arg Arg Met Asn Arg			
85	90	95	
Val Cys Arg Lys Ile Ser Lys Val Leu Asp Lys Ala Ile Asp Ile Leu			
100	105	110	
Glu Lys Gly Asp Ser Glu Tyr Thr Cys Asp Ile Ser Arg Ile Tyr			
115	120	125	
Glu Thr Leu Thr Gly Lys Val Gly Phe Tyr Ser Tyr Phe Gln Glu Arg			
130	135	140	
Ile Arg Val Leu Phe Asp Thr Gly His Glu Gly Thr Ala Lys Ala Tyr			
145	150	155	160
Glu Ser Thr Leu His Ser Met Gln Arg His Leu Cys Glu Ser Asp Phe			
165	170	175	
Pro Phe Pro His Leu Ser Ser Arg Leu Val Ile Lys Tyr Arg Asp Ala			
180	185	190	
Leu Gln Glu Ala Gly Val Gly Lys Asn Thr Ile Gly Phe Tyr Leu His			
195	200	205	

Asn Met Lys Ala Val Tyr Arg Arg Gly Cys Leu Glu Leu Asn Leu Val  
 210 215 220  
 Phe Pro Ser Pro Phe Ser Asp Ile Arg Ile Arg Ser Glu Lys Thr Val  
 225 230 235 240  
 Lys Gln Ser Leu Pro Met Asn Gln Val Arg Ser Leu Ala Arg Leu Ser  
 245 250 255  
 Leu Ser Ala Gly Thr Pro Glu Cys Leu Ala Arg Asp Ile Phe Ile Phe  
 260 265 270  
 Ser Ile Tyr Thr Arg Gly Met Ser Phe Val Asp Ile Ala Leu Leu Lys  
 275 280 285  
 Lys Ser Asp Val Phe Pro Gly Val Ile Arg Tyr Arg Arg His Lys Thr  
 290 295 300  
 Gly Gln Leu Leu Glu Ile Gly Ile Asn Arg Gln Ile Gln Ser Leu Leu  
 305 310 315 320  
 Asp Arg Tyr Gly Asp Thr Ala Gly Asn Tyr Leu Phe Pro Leu Val Asp  
 325 330 335  
 Glu Ser Glu Thr Pro Tyr Ser Gly Tyr Lys Lys Ala Tyr Asn Lys Met  
 340 345 350  
 Arg Tyr Ala Leu Lys Lys Val Ser Lys Ser Ile Gly Met Asn Pro Pro  
 355 360 365  
 Leu Arg Leu His Ala Ala Arg His Cys Trp Ala Thr Met Ala Arg Glu  
 370 375 380  
 Asn Gly Thr Pro Leu His Thr Ile Ser Glu Cys Leu Gly His Ser Ser  
 385 390 395 400  
 Glu Lys Met Thr Arg Ile Tyr Leu Lys Glu Leu Asp Arg Ser Val Leu  
 405 410 415  
 Asp Glu Val Asn Asn His Ile Ala Asp Asn Ile Cys  
 420 425

&lt;210&gt; 6629

&lt;211&gt; 523

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6629

Thr Asp Thr Ala Met Glu Ile Arg Lys Gln Tyr Phe Lys Glu Lys Gln  
 1 5 10 15  
 Tyr Met Trp His Lys Val Arg Glu Leu Gln Leu Lys Gly Leu Asn Lys  
 20 25 30  
 Thr Gln Ile Gly Ile Tyr Leu Gly Val Asn Arg Lys Thr Val Arg Arg  
 35 40 45  
 Tyr Leu Asn Met Thr Met Glu Glu Phe Val Lys Lys Gln Ser Ser His  
 50 55 60  
 Arg Lys Tyr Arg Leu Lys Leu Glu Asn Tyr Glu Gln Tyr Val Arg Ala  
 65 70 75 80  
 Asn Leu Glu Glu Tyr Pro Tyr Ile Ser Ala Ala Arg Ile His Asp Trp  
 85 90 95  
 Leu Lys Glu Cys Tyr Pro Asp Phe Pro Arg Val Cys Asn Arg Thr Val  
 100 105 110  
 Ser Gly Phe Val Glu Arg Val Arg Lys Lys Tyr Gly Ile Gly Lys Lys  
 115 120 125  
 Val Glu Thr His Lys Arg Asn Tyr Glu Lys Gln Pro Asp Thr Pro Tyr  
 130 135 140  
 Gly Glu Tyr Ala Gln Ala Asp Phe Gly Glu Lys Trp Met Arg Thr Glu  
 145 150 155 160  
 Asn Gly Lys Ser Ile Lys Val Tyr Phe Phe Ala Ile Val Leu Ser Arg  
 165 170 175  
 Ser Arg Tyr Lys Phe Ile Tyr Phe Ser Arg Arg Pro Phe Asp Thr Gly  
 180 185 190

Leu Ala Val Tyr Ala His Glu Leu Ala Phe Glu Tyr Phe Gly Gly Arg  
     195                 200                 205  
 Pro Gln Lys Ile Ile Tyr Asp Gln Asp Lys Val Leu Ile Ala Arg Ala  
     210                 215                 220  
 Asn Met Gly Asp Leu Ile Leu Thr Gly Lys Phe Gln Ala Phe Val Lys  
     225                 230                 235                 240  
 Glu Gln His Phe His Pro Val Phe Cys His Lys Ala Asp Pro Glu Ser  
     245                 250                 255  
 Lys Gly Lys Val Glu Asn Val Val Lys Tyr Val Lys Thr Asn Phe Leu  
     260                 265                 270  
 Thr Ala Arg Ile Phe Gln Asn Val Asp Arg Leu Asn Glu Glu Ala Arg  
     275                 280                 285  
 Leu Trp Leu Glu Arg Thr Gly Asn Gly Lys Glu His Gly Thr Thr His  
     290                 295                 300  
 Arg Ile Pro Leu Glu Glu Phe Ala Gln Glu Arg Glu Tyr Leu Val Pro  
     305                 310                 315                 320  
 Tyr His Gly Thr Pro His Ser Pro Gly Gly Glu Met Lys Glu Tyr His  
     325                 330                 335  
 Val Arg Lys Asp Asn Thr Val Gln Tyr Arg Gly Asn Tyr Tyr Ser Leu  
     340                 345                 350  
 Pro Cys Gly Thr Tyr Arg Gly Gly Glu Thr Thr Val Trp Leu His Glu  
     355                 360                 365  
 Thr Asp Gly Cys Leu Glu Leu Tyr Asn Lys Glu Thr Gly Lys Leu Val  
     370                 375                 380  
 Cys Arg His Asp Leu Cys Glu Leu Lys Gly Lys Thr Ile Tyr Gly Glu  
     385                 390                 395                 400  
 Gly His Arg Arg Gln Arg Asn Ile Gly Ala Gln Lys Leu Ala Glu Arg  
     405                 410                 415  
 Ile Leu Ile Tyr Val Ser Tyr Asn Arg Glu Val Ala Leu Trp Leu Glu  
     420                 425                 430  
 Asn Leu Gln Arg Arg Lys Glu Arg Tyr Tyr Arg Glu Asn Leu Glu Val  
     435                 440                 445  
 Ile Leu Arg Ile Ile Pro Gly Tyr Asp Lys Ala Ile Leu Thr Glu Ala  
     450                 455                 460  
 Val Ser Val Cys Leu Asp Lys Gly Ile Tyr Asn Gly Glu Ser Val Lys  
     465                 470                 475                 480  
 Ser Leu Cys Gly His Ile Trp Lys Lys Lys Met Gly Glu Ser Asp Val  
     485                 490                 495  
 Gly Lys Asn Pro Ala Ser Arg Thr Gln Ser Thr Gly Leu Val Lys Thr  
     500                 505                 510  
 Tyr Asn Glu Ile Phe Arg Asn Asn Gly Lys Val  
     515                 520

&lt;210&gt; 6630

&lt;211&gt; 478

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6630

Gln Thr Asp Ala Pro Leu Ser Thr Leu Ile Phe Lys Thr Phe Ile Thr  
     1                 5                 10                 15  
 Met Asn Gln Thr Val Thr Glu Asn His Arg Leu Arg Asp Thr Ile Ile  
     20                 25                 30  
 Ile Gly Ala Gly Leu Thr Gly Leu Thr Thr Ala Tyr Cys Leu Thr Arg  
     35                 40                 45  
 Lys Gly Cys Asp Ile Glu Val Ile Glu Gln Ser Pro Cys Val Gly Gly  
     50                 55                 60  
 Gln Ile Arg Thr Tyr His Glu Asn Gly Phe Thr Phe Glu Ser Gly Pro  
     65                 70                 75                 80

Asn	Thr	Gly	Val	Ile	Ser	His	Pro	Glu	Val	Ala	Glu	Leu	Leu	Ala	Glu
				85				90						95	
Leu	Ser	Pro	Thr	Cys	Arg	Leu	Glu	Thr	Ala	Arg	Glu	Ala	Ser	Arg	Gln
				100				105					110		
Arg	Leu	Ile	Trp	Lys	Gly	Asp	Arg	Phe	His	Ser	Leu	Pro	Ser	Gly	Leu
				115				120					125		
Phe	Ser	Ala	Ile	Thr	Thr	Pro	Leu	Phe	Ser	Thr	Lys	Asp	Lys	Phe	Asn
				130			135				140				
Ile	Leu	Gly	Glu	Pro	Phe	Arg	Ala	Lys	Gly	Asn	Asn	Pro	Asp	Glu	Thr
				145		150			155					160	
Ile	Gly	Glu	Leu	Val	Gln	Arg	Arg	Leu	Gly	Ile	Ser	Tyr	Leu	His	Tyr
				165				170					175		
Ala	Val	Asp	Pro	Phe	Ile	Ser	Gly	Val	Tyr	Ala	Gly	Asp	Pro	Met	Arg
				180				185					190		
Leu	Val	Thr	Arg	His	Ala	Leu	Pro	Lys	Leu	Tyr	Gln	Leu	Glu	Gln	Thr
				195			200				205				
Tyr	Gly	Ser	Phe	Ile	Leu	Gly	Gly	Ile	Ala	Lys	Ser	Phe	Ser	His	Arg
				210		215			220						
Ser	Glu	His	Asp	Arg	Leu	Ala	Thr	Arg	Lys	Val	Phe	Ser	Thr	Tyr	Gly
				225		230			235					240	
Gly	Leu	Ser	Asn	Leu	Thr	Lys	Ala	Leu	Glu	Gln	Ala	Ile	Gly	Ile	Lys
				245				250					255		
Arg	Phe	Ser	Leu	Gly	Ala	Thr	Ser	Thr	Ser	Leu	Met	Pro	Cys	Glu	Gln
				260			265						270		
Gly	Trp	Val	Val	Ser	Phe	Thr	Asp	Ser	Cys	Gly	Ile	Val	Asn	Arg	Ile
				275			280					285			
His	Cys	Arg	Lys	Val	Ile	Thr	Thr	Thr	Pro	Ala	Phe	Val	Leu	Pro	Ser
				290		295			300						
Leu	Leu	Pro	Phe	Val	Pro	Asp	Lys	Gln	Met	Asn	Arg	Ile	Ser	Asn	Leu
				305		310			315					320	
Thr	Tyr	Ala	Pro	Val	Met	Gln	Val	Ser	Val	Gly	Leu	Arg	Asn	Thr	Tyr
				325				330					335		
Gly	Lys	Glu	Phe	His	Ala	Phe	Gly	Gly	Leu	Val	Pro	Ser	Cys	Glu	Gln
				340			345					350			
Lys	Pro	Val	Leu	Gly	Ile	Leu	Phe	Pro	Ser	Ala	Cys	Phe	Asp	Asn	Arg
				355			360					365			
Ser	Pro	Glu	Gly	Gly	Ala	Leu	Tyr	Ser	Tyr	Phe	Leu	Gly	Gly	Thr	Arg
				370		375			380						
His	Pro	Glu	Leu	Leu	Glu	Lys	Ser	Asp	Asp	Glu	Ile	Ile	Arg	Leu	Ile
				385		390			395					400	
Thr	Thr	Gly	Leu	Asn	Glu	Met	Leu	Asp	Tyr	Pro	Ala	Gly	Ile	Val	Pro
				405				410					415		
Asp	Leu	Ile	Arg	Ile	Phe	Arg	His	Lys	Lys	Ala	Ile	Pro	Gln	Tyr	Glu
				420			425					430			
Ser	Ser	Ser	Thr	Asp	Arg	Phe	Ala	Ala	Ile	Asn	Glu	Leu	Gln	Lys	Gln
				435			440					445			
Tyr	Pro	Gly	Leu	Val	Val	Ala	Gly	Asn	Leu	Lys	Gly	Gly	Ile	Gly	Met
				450			455				460				
Ala	Asp	Arg	Ile	Lys	Gln	Ala	Val	Glu	Ile	Ala	Arg	Glu	Arg		
				465			470				475				

<210> 6631

<211> 157

<212> PRT

<213> B.*fragilis*

<400> 6631

Thr His Val Ile His Thr Ser Lys Ser Glu Asn Gln Arg Leu Lys Met  
     20                     25                     30  
 Lys Arg Arg Lys Glu Pro Thr Glu Phe Arg Leu Gly Thr Ile Ile Val  
     35                     40                     45  
 Pro Tyr Ile Glu Met Phe Asp Glu Ala Val Ala Ile Arg Thr Asp Gly  
     50                     55                     60  
 Val Arg Leu Ile Ile Asp Thr Tyr Phe Asn Asp Leu Ser Ile Asp Asp  
     65                     70                     75                     80  
 Ile Pro Gln Gln Tyr Val Phe Thr Trp Asn Trp Leu Gly Lys Gly Tyr  
     85                     90                     95  
 Lys Phe Thr Val Ile Asn His Leu Tyr Lys Ser Ser Lys Ala Lys Thr  
     100                    105                     110  
 Lys Arg Gly Phe Lys Lys Leu Ala Glu Ala Leu Pro Leu Leu Ile  
     115                    120                     125  
 Asp Pro Lys Asn Gly Leu Ile Lys Lys Pro Glu Leu Ser Pro Ala Asp  
     130                    135                     140  
 Leu Asn Arg Phe Asn Thr Val Leu Lys Thr Cys Ser Lys  
     145                    150                     155

&lt;210&gt; 6632

&lt;211&gt; 88

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6632

Glu Leu Phe Tyr Arg Asp Ile Tyr Leu Leu Leu Thr Ser Cys Gln Leu  
     1                     5                     10                     15  
 Ile Asn Gln Asn Pro Phe Thr Tyr Glu Leu Leu Val Pro Ile Leu His  
     20                    25                     30  
 Gln Asp Thr Phe Val Gln Met Val Leu Arg Gly Ile Thr Tyr Leu Pro  
     35                    40                     45  
 Leu Leu Ile Leu Val Met Val Met Asp Gly Leu Leu Cys Ile Ile  
     50                    55                     60  
 Gly Leu Leu Pro Phe Ala Asp Arg Asn Lys Gly Ile Gly His Glu Tyr  
     65                    70                     75                     80  
 Asp Cys Asn Glu Leu Phe Gly Arg  
     85

&lt;210&gt; 6633

&lt;211&gt; 62

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6633

Asn Leu Leu Tyr Gly Phe Thr Gln Leu Phe Phe Arg Arg Asn Tyr Ile  
     1                     5                     10                     15  
 Glu Ile Phe Pro Lys Ala Phe Val Val Tyr Lys Trp Asn Phe Arg Lys  
     20                    25                     30  
 Asp Gly Met Tyr Gly Gln Pro Leu Ile Met Val Glu Thr Ala Asp Ile  
     35                    40                     45  
 Ile Arg Phe Tyr Leu Ala Gly Asp His Phe Lys Pro Cys Met  
     50                    55                     60

&lt;210&gt; 6634

&lt;211&gt; 67

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6634

Asn Tyr Asn Leu Gln Gly Gln Arg Ala Gln Asp Val Glu Ala Val Phe  
 1 5 10 15  
 Gly Asn Leu Lys Thr Thr Asn Asn Pro Arg Arg Phe Tyr Leu Arg Arg  
 20 25 30  
 Val Glu Lys Val Asp Ile Glu Phe Gly Leu Leu Ala Ile Ala Tyr Asn  
 35 40 45  
 Leu Ala Lys Val Ala Ser Ser Thr Thr Phe Cys Ala Pro Lys Asp Ile  
 50 55 60  
 Leu Lys Gly  
 65

&lt;210&gt; 6635

&lt;211&gt; 527

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

<400> 6635  
 Ser Arg Asn Gln Asn Pro Lys Thr Met Lys Ala Ser Lys Ser Leu Cys  
 1 5 10 15  
 Leu Gln Cys Leu Phe Thr Cys Leu Leu Phe Ile Ala Ala Arg Val  
 20 25 30  
 Lys Ala Asp Asp Ser Gly Ile Leu Asp Arg Ile Ile Arg Leu Pro Lys  
 35 40 45  
 Ser Glu Met Thr Val Tyr Lys Leu Leu Ser Lys Ile Thr Glu Glu Thr  
 50 55 60  
 Gly Tyr Leu Phe Ile Tyr Asp Ser Lys Leu Val Asp Asn Glu Arg Thr  
 65 70 75 80  
 Val Lys Leu Lys Gly Gly Lys Gln Thr Val Arg Gln Ala Ile Tyr Ser  
 85 90 95  
 Ile Ile Gly Asn Asp Asn Leu Lys Leu Arg Ser Val Asp Lys His Ile  
 100 105 110  
 Ile Ile Tyr Arg Pro Glu Thr Ala Leu Ser Ile Ser Lys Glu Glu Gly  
 115 120 125  
 Leu Cys Arg Asp Ser Thr Leu Ser Phe Thr Leu Glu Gly Thr Leu Ile  
 130 135 140  
 Asp Gln Leu Ser Arg Glu Pro Ile Pro Tyr Ala Thr Val Gly Ala Glu  
 145 150 155 160  
 Gly Ser Ser Ile Gly Ser Val Thr Asn Gln Asn Gly Ser Phe Arg Leu  
 165 170 175  
 His Leu Pro Asp Ser Leu Arg Asn Gly Arg Ile Arg Phe Ser His Leu  
 180 185 190  
 Gly Tyr Val Pro Gln Thr Thr Asp Ala Ser Leu Leu Ala Gly Arg Asn  
 195 200 205  
 Gly Thr Phe Ala Leu Glu Pro Lys Val Ile Pro Leu Gln Glu Val Ile  
 210 215 220  
 Val Arg Ile Val Asn Pro Val Arg Leu Leu Arg Glu Met Leu Gln Phe  
 225 230 235 240  
 Arg Lys Lys Asn Tyr Ser Lys Val Pro Val Tyr Leu Thr Ser Phe Tyr  
 245 250 255  
 Arg Glu Gly Ile Glu Gln Lys Asn Arg Phe Val Ser Leu Thr Glu Gly  
 260 265 270  
 Ile Phe Lys Ile Tyr Lys Ala Ser Ser Ser Thr Pro Glu Lys Thr Asp  
 275 280 285  
 Gln Val Lys Leu Leu Lys Met Arg Arg Ile Thr Asn Gln Ala Val Lys  
 290 295 300  
 Asp Thr Leu Ile Ala Lys Met Lys Ser Gly Ile His Ala Ser Ile Glu  
 305 310 315 320  
 Leu Asp Leu Ile Lys Ser Leu Pro Asp Phe Leu Leu Pro Asp Ser Lys  
 325 330 335

Glu Cys Val Tyr Val Tyr Ser Ser Asp Leu Ala Ile Ile Asp Asn  
           340                  345                  350  
 Arg Leu Ala His Val Val Ser Phe Glu Gln Arg Pro Ser Ile Lys Tyr  
           355                  360                  365  
 Pro Tyr Tyr Cys Gly Glu Leu Tyr Ile Asp Ser Glu Asn Ser Ala Leu  
           370                  375                  380  
 Leu Arg Ala Arg Phe Glu Leu Thr Pro Arg Tyr Ile His Lys Ala Ala  
           385                  390                  395                  400  
 Asn Met Leu Val Glu Lys Arg Ser Arg Asn Ile Arg Ile Ile Pro Gln  
           405                  410                  415  
 Lys Val Val Tyr Thr Val Ser Tyr Lys Pro Trp Lys Gln Thr Tyr Tyr  
           420                  425                  430  
 Ile His His Val Arg Gly Asp Leu His Phe Lys Ile Lys Gln Lys Asn  
           435                  440                  445  
 Lys Trp Leu Asn Asn Thr Ile Leu His Thr Trp Phe Glu Met Val Thr  
           450                  455                  460  
 Cys Lys Ile Glu Thr Asp Asn Val Ser Arg Phe Asp His Asn Glu Arg  
           465                  470                  475                  480  
 Leu Ser Val His Thr Ile Phe Ala Glu Ile Pro Phe Val Tyr Asp Lys  
           485                  490                  495  
 Ser Phe Trp Glu Asp Phe Asn Val Ile Pro Pro Glu Lys Glu Leu Ser  
           500                  505                  510  
 Glu Ala Ile Glu Lys Ile Ser Ser Lys Ile Glu Glu Thr Glu Asn  
           515                  520                  525

&lt;210&gt; 6636

&lt;211&gt; 187

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6636

Lys Ile Lys His Leu Ile Thr Met Ile Val Gln Asp Leu Asn Phe Asp  
 1              5                  10                  15  
 Gln Thr Val Ala Met Ala Lys Ala Lys Ala Glu Ser Met Ile Gln Asn  
           20                  25                  30  
 Gly Leu Tyr Ser Arg Phe Gly Leu Ser Glu Lys Glu Arg Leu Asp Lys  
           35                  40                  45  
 Ala Leu Leu Gly Cys Ile Gly Glu Leu Ala Phe Gln Lys His Leu Lys  
           50                  55                  60  
 Asn Leu Gly Ile Pro Phe Glu Leu Asp Gln Thr Asp Phe Gln Ser His  
           65                  70                  75                  80  
 His Ser Asp Glu Phe Asp Val Lys Val Asn Gly Ala Lys Ile Asp Ile  
           85                  90                  95  
 Lys Val Ala Lys Lys Thr Thr Ala Asn Pro Pro Thr Asp Asn Trp Thr  
           100                  105                  110  
 Tyr Gly Tyr Pro Gln Glu Gln His Pro Glu Thr Lys Asp Tyr Val Val  
           115                  120                  125  
 Val Gly Trp Val Asp Phe Asn Arg Lys Glu Val Gly Phe Tyr Gly Trp  
           130                  135                  140  
 Ile Arg Gly Lys Gln Ile Val Glu Phe Lys Val Val Thr Gln Asn Ser  
           145                  150                  155                  160  
 Tyr Ala Lys Tyr Pro Tyr Leu Thr Pro Asn His Glu Phe Lys Trp Gly  
           165                  170                  175  
 Cys Leu Thr Lys Asp Leu Asn Glu Ile Leu Lys  
           180                  185

&lt;210&gt; 6637

&lt;211&gt; 434

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6637

Ile Thr Met His Met Phe Lys Lys Leu Leu Leu Leu Ser Leu  
 1               5               10               15  
 Leu Asp Cys Ile Pro Val Phe Cys Gly Gly Asp Thr Leu His Tyr Arg  
 20              25              30  
 Phe Tyr Phe Arg Val Gly Ala Ser Ser Leu Asp Leu Ser Tyr Arg Asp  
 35              40              45  
 Asn Gly Leu Arg Leu Asp Ser Leu Leu Ser Val Ile His Ser Arg Gln  
 50              55              60  
 Ala His Ala Val Leu Arg Arg Val Ser Leu Tyr Ser Ser Ala Ser Pro  
 65              70              75              80  
 Glu Gly Gly Ser Ala Leu Asn Lys Arg Leu Ser Asp Arg Arg Leu Ala  
 .              85              90              95  
 Ser Leu Arg Thr Val Ile Gln His Arg Leu Ala Ile Pro Asp Ser Ile  
 100            105            110  
 Leu Ile Ser Phe Ser Leu Gly Glu Asp Trp Asp Gly Leu Ser Ser Leu  
 115            120            125  
 Val Glu Gly Ser Asp Ile Pro Tyr Arg Gly Glu Val Leu Arg Ile Leu  
 130            135            140  
 Arg Asp Thr Pro Val Trp Val Ile Arg Asn Gly Ile Val Val Asp Ser  
 145            150            155            160  
 Arg Lys Arg Gln Leu Met Asn Leu Arg Gly Gly Arg Val Trp Arg Tyr  
 165            170            175  
 Met His Glu His Phe Pro Glu Leu Arg Asn Ser Ser Val Ile Glu  
 180            185            190  
 Cys Glu Phe Glu Pro Phe Val Ala Glu Asn Asp Asp Val Pro Ala Pro  
 195            200            205  
 Ser Gln Lys Gly Val Cys Pro Pro Asp Thr Val Ile Leu Arg Asp Thr  
 210            215            220  
 Val Glu Arg Ala Ile Met Met Arg Asp Thr Val Glu Val Pro Val Pro  
 225            230            235            240  
 Ile Ala Asn Ile Pro Lys Pro Phe Tyr Met Gly Leu Lys Thr Asn Leu  
 245            250            255  
 Leu Tyr Asp Ala Leu Leu Val Pro Asn Ile Gly Val Glu Phe Tyr Leu  
 260            265            270  
 Gly Lys Gly Trp Ser Leu Gly Gly Asn Trp Met Tyr Ala Trp Trp Asn  
 275            280            285  
 Asn Asp Arg Arg His Arg Tyr Trp Arg Val Tyr Gly Gly Glu Ile Gly  
 290            295            300  
 Leu Arg Lys Tyr Phe Ala Pro Arg Ala Ala Tyr Thr Pro Phe Ile Gly  
 305            310            315            320  
 His His Val Gly Leu Tyr Gly Gln Met Leu Thr Tyr Asp Phe Glu Phe  
 325            330            335  
 Gly Gly Lys Gly Tyr Met Gly Gly Arg Pro Gly Gly Ser Leu Trp Glu  
 340            345            350  
 Lys Ser Asn Tyr Gly Phe Gly Leu Glu Tyr Gly Tyr Ser Leu Ala Ile  
 355            360            365  
 Gly Arg Arg Leu Asn Leu Asp Phe Ser Leu Gly Val Gly Tyr Leu Gly  
 370            375            380  
 Gly Thr Tyr Tyr Glu Tyr Ala Pro Met Asp Gly His Tyr Val Trp Glu  
 385            390            395            400  
 Ala Thr Lys Asn Arg Arg Trp Phe Gly Pro Thr Lys Ala Glu Val Ser  
 405            410            415  
 Leu Val Trp Leu Leu Gly Arg Gly Asn Tyr Asn Asp Lys Lys Gly Gly  
 420            425            430  
 Arg Arg

<210> 6638  
<211> 324  
<212> PRT  
<213> B.fragilis

<400> 6638

Arg	His	Met	Gln	Tyr	Val	Gly	Ile	Gln	Thr	Gln	Gln	Ser	Arg	Asn	Asn
1					5				10				15		
Leu	Arg	Ser	Gly	Ile	Leu	Leu	Ile	Leu	Phe	Pro	Cys	Leu	Val	Ala	Val
					20				25				30		
Leu	Thr	Tyr	Leu	Phe	Cys	Tyr	Leu	Leu	Ile	Thr	Phe	Thr	Val	Glu	Asp
					35				40			45			
Asp	Tyr	Gly	Gln	Tyr	Asn	Thr	Leu	Ala	Met	Thr	Asn	Gln	Met	Phe	Ile
					50				55			60			
Asn	Leu	Ile	Pro	Tyr	Ile	Ile	Gly	Gly	Val	Leu	Val	Trp	Phe	Ile	Ile
					65				70			75			80
Ala	Tyr	Phe	Thr	Asn	Ser	Ser	Ile	Ile	Lys	Ala	Ala	Thr	Gly	Ala	Arg
					85				90			95			
Pro	Leu	Glu	Arg	Lys	Glu	Asn	Lys	Arg	Ile	Tyr	Asn	Leu	Val	Glu	Asn
					100				105			110			
Leu	Cys	Met	Ser	Gln	Gly	Met	Lys	Met	Pro	Lys	Ile	Asn	Ile	Ile	Asp
					115				120			125			
Asp	Asp	Ser	Leu	Asn	Ala	Tyr	Ala	Ser	Gly	Ile	Asn	Glu	Gln	Thr	Tyr
					130				135			140			
Thr	Val	Thr	Leu	Ser	Lys	Gly	Ile	Ile	Glu	Lys	Leu	Asn	Asp	Glu	Glu
					145				150			155			160
Leu	Glu	Gly	Val	Ile	Ala	His	Glu	Leu	Thr	His	Ile	Arg	Asn	His	Asp
					165				170			175			
Val	Arg	Leu	Leu	Ile	Ile	Ser	Ile	Val	Phe	Val	Gly	Ile	Phe	Ser	Met
					180				185			190			
Leu	Ala	Gln	Ile	Ala	Leu	Arg	Ser	Val	Tyr	Tyr	Ser	Ser	Trp	Thr	Arg
					195				200			205			
Ser	Arg	Asn	Asp	Lys	Asn	Asn	Gly	Ala	Ile	Leu	Ile	Leu	Val	Leu	Ala
					210				215			220			
Met	Ile	Val	Ala	Ala	Ile	Gly	Tyr	Phe	Phe	Ala	Thr	Leu	Met	Arg	Phe
					225				230			235			240
Ala	Ile	Ser	Arg	Lys	Arg	Glu	Tyr	Met	Ala	Asp	Ala	Gly	Ala	Ala	Glu
					245				250			255			
Met	Thr	Lys	Asn	Pro	Leu	Ala	Leu	Ala	Ser	Ala	Leu	Arg	Lys	Ile	Ser
					260				265			270			
Ala	Asp	Pro	Asp	Ile	Glu	Ala	Val	Glu	Arg	Glu	Asp	Val	Ala	Gln	Leu
					275				280			285			
Phe	Ile	Gln	His	Pro	Gly	Lys	Gln	Ala	Lys	Ser	Ala	Leu	Ser	Gly	Leu
					290				295			300			
Ser	Gly	Leu	Phe	Ala	Thr	His	Pro	Pro	Ile	Glu	Lys	Arg	Ile	Ala	Ile
					305				310			315			320
Leu	Glu	Gln	Phe												

<210> 6639  
<211> 133  
<212> PRT  
<213> B.fragilis

<400> 6639

Gln	Glu	Gln	Gln	Asn	Leu	Phe	Pro	Glu	Asn	Gln	Gly	Ser	Lys	Gly	Thr
1					5				10				15		
Val	Trp	Leu	Tyr	Leu	Glu	Ser	Lys	Arg	Gly	Ile	Pro	His	Leu	His	Gly

20	25	30
Thr Phe Cys Arg Ile Asp Glu Arg Gly Asn Val Asn Asn Asp His Asp		
35	40	45
Ile His Leu Arg Ala Gln Arg Ala Ala Gly Arg Val Ala Leu Lys Arg		
50	55	60
Gly Trp Met Thr Ala Ala Glu Val Arg Glu Thr Asn Ile Gly His Val		
65	70	75
Asn Arg Asp Cys Met Glu Pro Leu Gln Ser Met Lys Ser Arg Ser Trp		
85	90	95
Asp Glu Tyr Ala Ala Gly Leu Gln Ser Met Gly Tyr Lys Phe Trp Glu		
100	105	110
Pro Arg Asp Asn Lys Lys Ile Leu His Gly Tyr Val Leu Lys Lys Gly		
115	120	125
Asn Ala Ile Tyr Tyr		
130		

&lt;210&gt; 6640

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6640

Glu Arg Arg Gln Thr Met Asn Arg Ile Leu Thr Thr Asn His Ile Leu		
1	5	10
His Val Val Ser Val Phe Thr Ile Leu Leu Leu Thr Ser Cys Glu His		
20	25	30
Lys Asp Leu Cys Tyr Asp His Ser Asp Ala Thr Glu Ile Gln Val Val		
35	40	45
Phe Asp Trp Thr Asn Ala Pro Asp Ala Thr Pro Glu Thr Met Arg Leu		
50	55	60
Tyr Leu Phe Pro Val Gly Gly Thr Pro His Thr Tyr Glu Phe Pro		
65	70	75
Asp Tyr Arg Gly Gly Arg Ile Asn Val Pro Ala Gly Arg Tyr Lys Ala		
85	90	95
Leu Cys Ile Asn Ser Asp Thr Glu Ser Ile Leu Tyr Arg Asn Ile Asp		
100	105	110
Ser Phe Asp Ser Phe Glu Ala Tyr Ala Ala Asp Gly Val Leu Asn Val		
115	120	125
Arg Ser Ser Ser Ser Pro Arg Ala Glu Gly Thr Ala Asp Glu Arg Ile		
130	135	140
Ala Arg Ser Pro Asp Arg Phe Tyr Ser Ala Arg Leu Asp Asp Val Thr		
145	150	155
Ile Glu Leu Ser Lys Glu Asn Arg Thr Val Thr Leu Tyr Pro Glu Pro		
165	170	175
Ser Val Cys Arg Cys Arg Val Thr Ile Thr Asn Val Ser Asn Leu Lys		
180	185	190
Tyr Ile Ser Ser Asp Gly Ile Ser Gly Ala Leu Ser Gly Met Cys Gly		
195	200	205
Gly Leu Leu Val Gly Arg Asn Glu Ala Thr Ser Asp Pro Val Thr Val		
210	215	220
Pro Phe Gly Val Val Ser Asp Gly Ala Ser Thr Leu Thr Ala Asp Phe		
225	230	235
Leu Val Phe Gly Gln Ile Gly Pro Ser Gly Tyr Pro Ala His Lys Leu		
245	250	255
Val Ile Tyr Ala Ile Met Ser Asp Gly Ser Lys Asn Tyr Tyr Thr Phe		
260	265	270
Asp Val Thr Arg Gln Val Asp Glu Ala Ala Asp Ser His Asp Ile His		
275	280	285
Ile Thr Leu Asp Gly Leu Pro Phe Pro Lys Pro Ile Val Asn Gly Gly		

290	295	300
Gly Phe His Pro Ala Val Asp Glu Trp Gln Asn Val Asp Val Asp Val		
305	310	315
Ser Met		320

<210> 6641  
<211> 242  
<212> PRT  
<213> B.fragilis

<400> 6641

Glu Arg Arg His Glu Met Lys Lys Val Tyr Thr Val Met Glu Tyr Val			
1	5	10	15
Pro Leu Leu Ala Gly Met Leu Met Leu Leu Ser Ser Cys Gly His Lys			
20	25	30	
Asp Leu Cys Phe Asp His Asp Val His Ala Pro Lys Ser Glu Val Arg			
35	40	45	
Ile Glu Ala Arg Tyr Glu Lys Glu Trp Gln Tyr Thr His Glu Gly Ser			
50	55	60	
Thr Asp Trp Lys Ser His Ser Thr Trp Pro Glu Ser Phe Gly Met Glu			
65	70	75	80
Tyr Asp Ala Leu Arg Pro Gly Ile Pro Asp Gly Leu Arg Val Gln Val			
85	90	95	
Tyr Asn Ala Asp Gly Ser Asp Glu Ile Ile Asn Thr Ala Pro Glu Gly			
100	105	110	
Asp Val Val Tyr Met Arg Pro Gly Glu His Ser Leu Leu Phe Tyr Asn			
115	120	125	
Asn Tyr Thr Glu Tyr Ile Val Phe His Glu Met Gln Ser Phe Ala Ser			
130	135	140	
Ala Lys Ala Thr Thr Arg Thr Arg Thr Arg Ser Ser Tyr Leu Gly Asn			
145	150	155	160
Ser Tyr Met Glu Thr Ala Ser Glu Asn Thr Val Asn Gln Pro Asp Met			
165	170	175	
Leu Tyr Arg Ser Tyr Met Glu Ser Tyr Cys Gly Gly Thr Leu Asp Arg			
180	185	190	
Asn Arg Arg Asp Thr Arg His His Ala Pro Asp Gly Val His Leu Ser			
195	200	205	
Gly Thr Leu Arg Val Gln Pro Arg Gly Gly Ile Arg Val Ser Gly Thr			
210	215	220	
Arg Cys Leu Gly Trp Tyr Gly Ala Gly Gly Met Val Glu Gln Arg Thr			
225	230	235	240
His Val			

<210> 6642  
<211> 67  
<212> PRT  
<213> B.fragilis

<400> 6642

Leu Trp Val Asn Phe Ser Val Phe Ile Phe Ala Ala Val Asn Lys Gln			
1	5	10	15
Thr Thr Lys Pro Asp Leu Arg Asn Thr Val Ser Ile Thr Leu Lys Thr			
20	25	30	
Leu Glu Phe Cys Phe Pro Phe Phe Pro Ile His Ala Gly Thr Thr Thr			
35	40	45	
Phe Gln Lys Glu Ser Ile Trp Val Leu Ser Lys Gln Val Ile Pro Leu			
50	55	60	

Ser Val Ala  
65

<210> 6643  
<211> 216  
<212> PRT  
<213> B.fragilis

<400> 6643  
Cys Phe Pro Asn Arg His Lys Asp Ile Ile Leu Leu Tyr Asp Asp Thr  
1 5 10 15  
Ser Leu Lys Ile Gly Val Tyr Phe Leu Met Ile Cys Leu Thr Gly His  
20 25 30  
Gly Thr Lys Ile Gly Arg Arg Asn His Asp Gly Lys Ser Gly Ile  
35 40 45  
Tyr Phe Leu Ser His Gly Ile Asn Asp Ile Gln Tyr Ile Thr Gly Glu  
50 55 60  
Ser Arg Asn Lys Lys Gln Glu Thr Arg Asn Lys Lys His Pro Glu Leu  
65 70 75 80  
Ile Phe His Ile Ile Lys Asp Asn Leu Leu Pro Ser Gly Leu Asp Ala  
85 90 95  
Thr Gly Ile Trp Asp Phe Met Arg Leu Thr Gln Glu Lys Ser Lys Lys  
100 105 110  
Val Lys Asn Ser Val Ile His Ile Glu Val Ser Arg Ala Pro Glu His  
115 120 125  
Thr Lys Asp Phe Thr Ile Asp Asp Trp Arg Arg Leu Trp Asp Asp Phe  
130 135 140  
Met Gly Glu Phe Asp Asn Ile Glu Leu Leu Asp Lys Asn Ser Lys Thr  
145 150 155 160  
Tyr Ser Pro Lys Thr Lys Ala Ala Arg Ala Arg Cys Gly Cys Ile Trp  
165 170 175  
Asn Pro Arg Glu Ala Phe Pro Ile Phe Thr Ala Arg Ser Ala Val Ser  
180 185 190  
Thr Asn Gly Glu Met Ser Thr Thr Thr Met Thr Tyr Thr Cys Glu His  
195 200 205  
Ser Gly Gln Pro Gly Val Trp Pro  
210 215

<210> 6644  
<211> 431  
<212> PRT  
<213> B.fragilis

<400> 6644  
Ser Lys Asp Asn Met His Met Arg Gly Leu Ile Val Ser Ala Phe Leu  
1 5 10 15  
Leu Leu Gly Cys Ile Gln Ala Phe Gly Gln Glu Asn Arg Lys Glu Val  
20 25 30  
Cys Ile Gly Phe Pro Val Gly Asn Ser Thr Leu Asp Thr Ala Tyr Gly  
35 40 45  
Asn Asn Ala Ala Arg Leu Ser Glu Val Val Ser Phe Leu Glu Ser Val  
50 55 60  
Lys Lys Asp Ser Thr Leu Glu Leu Thr Gly Val Ser Phe Cys Gly Ser  
65 70 75 80  
Ala Ser Pro Glu Gly Gly Phe Thr Val Asn Arg Met Leu Ala Glu Lys  
85 90 95  
Arg Arg Asn Ser Leu Glu Arg Tyr Val Arg Glu Arg Val Ser Leu Pro  
100 105 110  
Asp Gly Ile Ile Ser Arg Pro Glu Gly Phe Ile Ala Trp Glu Arg Leu

115	120	125
Ala Glu Leu Val Glu Val Ser Asp Met Pro His Lys Glu Glu Ala Val		
130	135	140
Asp Val Leu Arg Asn Val Pro Glu Phe Thr Tyr Gly Asn Lys Gly Val		
145	150	155
Leu Val Asp Ser Arg Lys Lys His Leu Met Glu Leu Gln Tyr Gly Arg		160
165	170	175
Thr Trp His Tyr Met His Lys His Phe Phe Asp Arg Ile Arg Asn Ala		
180	185	190
Ser Val Ile Leu Val Thr Val Arg Gln Lys Pro Leu Ile Glu Glu Lys		
195	200	205
Thr Val Val Lys Glu Glu Pro Val Val Pro Thr Pro Ala Asp Asp Thr		
210	215	220
Thr Thr Val Val Glu Lys Ala Asp Thr Val Val Ala Val Ser Ser Glu		
225	230	235
240		
Thr Ser Lys Pro Phe Tyr Met Ala Leu Lys Thr Asp Met Leu Tyr Asp		
245	250	255
Val Leu Ala Val Pro Asn Ile Gly Val Glu Phe Tyr Leu Gly Lys Asn		
260	265	270
Trp Ser Ile Ser Gly Asn Trp Met Tyr Gly Trp Trp Lys Lys Asn Ser		
275	280	285
Asn His Arg Tyr Trp Arg Val Tyr Gly Gly Asp Leu Ala Val Arg Tyr		
290	295	300
Trp Leu Gly Lys Lys Ala His Glu Lys Pro Leu Thr Gly His His Ile		
305	310	315
320		
Gly Ile Tyr Gly Gln Ala Phe Thr Tyr Asp Phe Glu Trp Gly Gly Lys		
325	330	335
Gly Tyr Met Gly Gly Glu Pro Gly Gly Met Leu Trp Asp Lys Thr Asn		
340	345	350
Tyr Ala Ala Gly Val Glu Tyr Gly Tyr Ser Leu Pro Ile Ala Asn Arg		
355	360	365
Leu Asn Ile Asp Phe Thr Leu Gly Val Gly Tyr Trp Gly Gly Lys Tyr		
370	375	380
Tyr Glu Tyr Val Pro Leu Asp Ser His Tyr Val Trp Gln Ala Thr Lys		
385	390	395
400		
Asn Arg His Trp Phe Gly Pro Thr Lys Ala Glu Ile Ser Leu Val Trp		
405	410	415
Leu Leu Gly Arg Gly Asn Ser Asn Asn Lys Lys Gly Gly Met Lys		
420	425	430

&lt;210&gt; 6645

&lt;211&gt; 197

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6645

Tyr Gln Cys Lys Asn Arg Lys Glu Ile Asn Met Thr Ile Arg Glu Phe		
1	5	10
Lys Glu His Val Lys Thr Arg Lys Leu Leu Asp Thr Glu Glu Ile His		15
20	25	30
Gln Phe Met Asp Ile Met Ser Asn Glu Ala Arg Arg Ile Thr Phe Gln		
35	40	45
Leu Asn Thr Thr Tyr His Thr Pro Asn Glu Val Arg Glu Leu Leu Ser		
50	55	60
Glu Leu Phe Gly Tyr Arg Val Pro Ser Ser Phe Arg Val Phe Pro Pro		
65	70	75
Phe Tyr Thr Asp Phe Gly Lys Asn Ile Thr Ile Gly Glu Asp Val Phe		80
85	90	95
Ile Asn Ala Cys Cys His Phe Gln Asp His Gly Gly Ile Thr Ile Gly		

100	105	110
Asp Gly Cys Gln Ile Gly His Asn Val Val Phe Ala Thr Leu Asn His		
115	120	125
Gly Leu Leu Pro Glu Glu Arg Lys Ser Thr Gln Pro Ala Pro Ile Val		
130	135	140
Leu Gly Lys Asn Val Trp Val Gly Ser Asn Ala Thr Ile Leu Gln Gly		
145	150	155
Val Ser Ile Gly Asn Asn Ala Ile Val Ala Ala Gly Ala Val Val Thr		
165	170	175
Lys Asp Val Pro Ser Asp Thr Val Val Gly Gly Val Pro Ala Lys Phe		
180	185	190
Ile Lys Thr Ile Arg		
195		

&lt;210&gt; 6646

&lt;211&gt; 88

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6646

Ile Lys Asn Lys Lys Ile Asn Gly Met Asn Met Asn Lys Lys Met Tyr			
1	5	10	15
Ile Leu Pro Gly Asp Glu Arg Ile Ala Ala Ser Asp Ala Lys Glu Phe			
20	25	30	
Val His Glu Leu Arg Thr Gly Ser Trp Met Asp Ser Asn Cys Thr Asp			
35	40	45	
Glu Gln Tyr Met Cys Asn Phe Ala Glu Arg Tyr Val Ile Gln Ala Gly			
50	55	60	
Val Arg Ile Ala Thr Asp Thr Pro Glu Asn Phe Leu Ala Asp Leu Ile			
65	70	75	80
Arg Thr Gly Tyr Ala Lys Glu Met			
85			

&lt;210&gt; 6647

&lt;211&gt; 690

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6647

Asn Met Ile Lys Arg Leu Phe Phe Leu Leu Pro Phe Ser Thr Ile Val			
1	5	10	15
Ser Ala Asn Glu Pro Asp Thr Ile Gln Val Lys Arg Ile Asp Leu Asp			
20	25	30	
Glu Val Thr Ile Val Ala Phe Lys Gln Asn Thr Pro Asn Arg Glu Pro			
35	40	45	
Leu Ser Ile Ser Thr Leu Asp Asn Arg Phe Leu Lys Glu Asn Glu Ile			
50	55	60	
Ser Gly Ala Lys Asp Leu Ser Ser Leu Leu Pro Asn Phe Tyr Met Pro			
65	70	75	80
Asp Tyr Gly Ser Lys Gln Asn Ser Pro Val Tyr Ile Arg Gly Ile Gly			
85	90	95	
Ala Lys Lys Asp Ala Pro Ser Val Gly Phe Tyr Val Asp Gly Ile Pro			
100	105	110	
Tyr Phe Glu Thr Ser Ala Phe Asp Ile Asp Leu Ser Asp Ile Ser Ser			
115	120	125	
Ile Glu Val Leu Arg Gly Pro Gln Gly Thr Leu Tyr Gly Arg Asn Ser			
130	135	140	
Ile Gly Gly Thr Ile Asn Val Tyr Thr His Ser Pro Leu Asp Tyr Gln			
145	150	155	160

Gly Thr Tyr Phe Arg Leu Gly Tyr Gly Ser Tyr Asn Asp Met Arg Leu  
                  165                 170                 175  
 Ile Ala Ser Asn Tyr Thr Lys Val Asn Glu Gln Leu Gly Leu Ser Phe  
                  180                 185                 190  
 Ser Gly Asn Tyr His His Asn Asp Gly Phe Phe Thr Asn Leu His Thr  
                  195                 200                 205  
 His Lys Lys Ala Asp Lys Leu Asp Asn Gly Ala Gly Arg Ile Gly Leu  
                  210                 215                 220  
 Thr Trp Lys Pro Ala Ala His Trp Thr Thr Arg Phe Ile Thr Ser Tyr  
                  225                 230                 235                 240  
 Glu Tyr Ser Asn Gln Gly Gly Tyr Pro Tyr Gly Leu Tyr Asn Ala Asp  
                  245                 250                 255  
 Lys Gly Thr Thr Glu Ala Val Asn Tyr Asn Asn Glu Gly Leu Tyr Arg  
                  260                 265                 270  
 Arg Asn Leu Leu Thr Ser Gly Ile Asn Ile Arg Tyr Asn Gly Pro His  
                  275                 280                 285  
 Ile Ser Phe Asn Ser Gln Thr Ser Tyr Gln Tyr Ile Gln Asp Lys Met  
                  290                 295                 300  
 Gly Ile Asp Gln Asp Phe Ser Pro Arg Asn Ile Phe Tyr Gly Gln Asn  
                  305                 310                 315                 320  
 Lys Ile Arg Gln His Met Tyr Cys Gln Glu Phe Thr Ile Lys Ser Val  
                  325                 330                 335  
 Asn Lys Ser Arg Tyr His Trp Ile Thr Gly Ala Phe Val Phe Arg Gln  
                  340                 345                 350  
 Thr Ile Asn Arg Lys Val Asp Leu Ser Arg Phe Thr Asp Thr Thr Arg  
                  355                 360                 365  
 His Leu Thr Asn Ser Gly Ile Pro Thr Gln Gly Ile Ala Phe Tyr His  
                  370                 375                 380  
 Gln Ser Thr Leu Asp Leu Leu Gln Gly Leu Ser Cys Ser Val Gly Leu  
                  385                 390                 395                 400  
 Arg Tyr Asp Tyr Glu His Ala Arg Cys Asp Phe Ser Lys Val Gln Gln  
                  405                 410                 415  
 Pro Leu Asn Gly Asn Gly Glu Thr Lys Ser Leu Glu Gln Phe Asn Arg  
                  420                 425                 430  
 Ser Leu His Phe Gly Gln Phe Thr Pro Arg Phe Ser Met Gln Tyr Leu  
                  435                 440                 445  
 Ser Ser His Asn Gln Leu Phe Tyr Ala Ser Val Ser Lys Gly Tyr Lys  
                  450                 455                 460  
 Ala Gly Gly Phe Asn Val Ser Phe Leu Asn Asn Asp Asp Tyr Leu Tyr  
                  465                 470                 475                 480  
 Ser Pro Glu Tyr Asn Trp Asn Tyr Glu Ile Gly Thr Lys Leu Ser Phe  
                  485                 490                 495  
 Leu Asn Asn Arg Leu Ser Ala Asp Leu Ser Leu Phe Tyr Ile Asp Trp  
                  500                 505                 510  
 Arg Asn Gln Gln Ile Thr Asn Thr Ile Pro Thr Val Gly Asn Val Ile  
                  515                 520                 525  
 Arg Asn Ala Gly Arg Ser Arg Asn Lys Gly Ile Glu Ala Ser Phe Gln  
                  530                 535                 540  
 Ala Arg Pro Thr Lys Ser Trp Met Met Tyr Met Asn Tyr Gly Tyr Thr  
                  545                 550                 555                 560  
 Asp Ala Arg Phe Val His Tyr Gln Lys Glu Glu Arg Gly Ile Leu Lys  
                  565                 570                 575  
 Asp Tyr Glu Gly Asn Tyr Leu Pro Met Val Pro Arg His Thr Phe Ser  
                  580                 585                 590  
 Leu Thr Thr Gly Tyr Ser Phe Tyr Asp Ile Cys Ser Trp Ile Asp Arg  
                  595                 600                 605  
 Leu Thr Leu Asn Ala Gly Val Ser Val Thr Gly Pro Ile Tyr Trp Tyr  
                  610                 615                 620  
 Glu Asp Asn His Pro Ser Gln Ser Pro Tyr Ala Leu Val Asn Leu Arg

625	630	635	640
Ile Ser Ile Asn Lys Gly Cys Phe Thr Trp Glu Ala Trp Ser Lys Asn			
645	650	655	
Leu Thr Asn Thr Asp Tyr Leu Ser Tyr Tyr Phe Val Thr Ser Lys Ala			
660	665	670	
Tyr Ala Gln Lys Gly Lys Pro Ile Thr Leu Gly Thr Ser Val Ser Ile			
675	680	685	
Ser Leu			
690			

&lt;210&gt; 6648

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6648

Tyr Pro Thr Asn Thr Tyr Ile Tyr Ile Lys Lys Asn Thr Ile Tyr Met			
1	5	10	15
Tyr Gln Thr Ile Ser Glu Tyr Glu Ser Leu Gln Pro Val Thr Tyr Gln			
20	25	30	
Ile Asp Thr Asn Arg Phe Glu Lys Asn Gln Ile Lys Asp Ser Ala Lys			
35	40	45	
Glu Gln Tyr Lys Ser Val Thr Asn Leu Tyr Leu Pro Arg Asn Asp Lys			
50	55	60	
Asn Cys Ile Cys Thr Ser Val Pro Asn Val Asn Thr Gln Glu Ala Lys			
65	70	75	80
Pro Gly Arg			

&lt;210&gt; 6649

&lt;211&gt; 231

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6649

Leu Tyr Lys Lys Ser Leu Ile Met Lys Lys Ile Lys Phe Met Ala Leu			
1	5	10	15
Phe Leu Ser Met Ala Leu Val Phe Gly Ser Cys Gly Ser Met Asn Asn			
20	25	30	
Thr Ala Lys Gly Gly Val Ile Gly Gly Ser Gly Ala Ala Leu Gly			
35	40	45	
Ala Ile Ile Gly Gly Ile Ala Gly Lys Gly Lys Gly Ala Ala Ile Gly			
50	55	60	
Ala Ala Val Gly Thr Ala Val Gly Ala Gly Val Leu Ile Gly			
65	70	75	80
Arg Lys Met Asp Lys Lys Ala Ala Glu Ala Ala Lys Ile Lys Asp Ala			
85	90	95	
Gln Val Glu Gln Val Thr Asp Asn Asn Gly Leu Ala Ala Val Lys Val			
100	105	110	
Thr Phe Pro Ser Gly Ile Leu Phe Ala Phe Asn Ser Ser Ala Leu Ser			
115	120	125	
Ala Ala Ser Lys Gln Ser Leu Ala Glu Phe Ala Asn Ile Leu Lys Glu			
130	135	140	
Asp Pro Thr Val Asp Val Ala Ile Ile Gly His Thr Asp Lys Val Gly			
145	150	155	160
Ser Tyr Glu Ala Asn Gln Lys Val Ser Ala Asn Arg Ala Tyr Ala Val			
165	170	175	
Glu Asn Tyr Leu Gln Ala Cys Gly Val Lys Pro Tyr Gln Phe Lys Lys			
180	185	190	

Val Glu Gly Val Gly Tyr Ser Gln Tyr Asn Glu Ser Glu Thr Pro Glu  
 195 200 205  
 Gln Asn Arg Arg Val Glu Ile Phe Met Tyr Ala Ser Glu Gln Met Ile  
 210 215 220  
 Lys Asn Ala Glu Ala Gly Lys  
 225 230

<210> 6650

<211> 424

<212> PRT

<213> B.fragilis

<400> 6650

Thr Leu Lys Lys Met Lys Thr Gln Trp Ile Arg Ser Ile Gly Cys Ile  
 1 5 10 15  
 Leu Ala Val Leu Ile Leu Ser Gly Ile Met Pro Leu Ala Ala Gln Asp  
 20 25 30  
 Asn Ala Glu Arg Tyr Thr Ile Ser Gly Val Val Lys Asp Lys Leu  
 35 40 45  
 Asn Lys Lys Leu Glu Tyr Val Asn Val Ser Ile Pro Gly Ser Ser  
 50 55 60  
 Val Gly Thr Val Thr Asn Ala Asp Gly Glu Phe Thr Leu Lys Ile Pro  
 65 70 75 80  
 Glu Ser Val Gln Ala Lys Asp Ile Glu Ala Ser His Val Gly Tyr Leu  
 85 90 95  
 Asn Ser Arg Ile Pro Leu Lys Glu Glu Asn Pro Thr Glu Arg Ile Val  
 100 105 110  
 Trp Leu Thr Pro Tyr Ala Asn Leu Leu Ser Glu Ile Leu Val Arg Ala  
 115 120 125  
 Arg Asp Pro Arg Ser Ile Val Glu Glu Ala Leu Arg Lys Ile Pro Ala  
 130 135 140  
 Asn Tyr Ser Pro Gln Ser Asn Met Leu Thr Gly Phe Tyr Arg Glu Leu  
 145 150 155 160  
 Ala Gln Lys Gly Arg Arg Tyr Ile Asn Ile Ser Glu Ala Val Ile Asp  
 165 170 175  
 Ile Tyr Lys Thr Pro Tyr Asn Glu Thr Ala Glu His Asp Arg Val Gln  
 180 185 190  
 Ile Tyr Arg Gly Arg Arg Leu Leu Ser Gln Lys Gln Ser Asp Thr Leu  
 195 200 205  
 Ala Val Lys Leu Leu Gly Gly Pro Asn Met Ala Ile Tyr Met Asp Ile  
 210 215 220  
 Val Lys Asn Pro Asp Cys Leu Leu Ala Gln Glu Asp Leu Leu Phe Tyr  
 225 230 235 240  
 Glu Phe Arg Met Glu Asp Pro Thr Ser Ile Asp Asp Arg Ser Gln Tyr  
 245 250 255  
 Val Ile Ser Phe Arg Pro Arg Val Lys Leu Ser Tyr Pro Leu Cys Tyr  
 260 265 270  
 Gly Thr Leu Tyr Ile Asp Lys Glu Arg Leu Ser Phe Thr Arg Ala Glu  
 275 280 285  
 Phe Asn Leu Ser Met Asp Asp Lys Asn Lys Ala Thr Gln Ala Ile Leu  
 290 295 300  
 Arg Lys Lys Pro Phe Gly Leu Arg Phe Lys Pro Val Glu Val Ser Tyr  
 305 310 315 320  
 Leu Ile Ser Tyr Lys Asn Leu Glu Gly Ile Thr Tyr Leu Ser Tyr Ile  
 325 330 335  
 Arg Asn Asn Ile Arg Phe Lys Cys Asp Trp Lys Arg Lys Leu Phe Ser  
 340 345 350  
 Thr Asn Tyr Thr Ile Leu Ser Glu Met Val Val Thr Asp Arg Lys Glu  
 355 360 365

Asn Asn Ile Thr Ala Ile Pro Tyr Lys Ala Ala Phe Lys Gln Asn His  
 370 375 380  
 Val Phe Ser Asp Lys Val Asp Asn Phe Thr Ser Asp Asn Phe Trp Gly  
 385 390 395 400  
 Gly Tyr Asn Ile Ile Glu Pro Thr Glu Ser Leu Glu His Ala Val Asn  
 405 410 415  
 Lys Leu Lys Lys Gln Gln Lys Gln  
 420

<210> 6651

<211> 316

<212> PRT

<213> B.fragilis

<400> 6651

Gln Val Met Asn Glu Thr Ile Arg Arg Ile Leu Ala Glu Ser Gly Thr  
 1 5 10 15  
 Lys Thr Ser Lys Ile Arg Lys Leu Leu Leu Thr Gly Leu Ser His Arg  
 20 25 30  
 Glu Ile Ala Asp Leu Val Thr Arg Gly Asn Arg Gly Phe Val Trp Asn  
 35 40 45  
 Val Tyr Lys Arg Met Arg Asp Glu Gly Leu Leu Pro Ala Ser Gln Thr  
 50 55 60  
 Ala Thr Val Leu Arg Pro Glu Pro Asp Tyr Thr Phe Asn Arg Cys Phe  
 65 70 75 80  
 Gly Val Glu Ile Glu Ala Tyr Asn Cys Pro Arg Gln Thr Leu Thr Asp  
 85 90 95  
 Ala Leu Arg Glu Thr Gly Ile Pro Val Glu Ile Gly Ser Arg Asn Ala  
 100 105 110  
 Glu Thr Asn Ser Asn Trp Lys Leu Thr Thr Asp Gly Ser Leu Glu Gly  
 115 120 125  
 Ser His Thr Phe Glu Leu Val Ser Pro Ile Leu Cys Gly Glu Gln Gly  
 130 135 140  
 Leu Glu Val Leu Glu Arg Val Cys Trp Val Leu Asp Ala Tyr Asn Val  
 145 150 155 160  
 Lys Ile Asn Ser Ser Cys Gly Val His Val His Phe Asn Ala Gly Asp  
 165 170 175  
 Phe Asn Leu Thr Thr Trp Gln Asn Leu Ile Leu Ser Tyr Lys His Ala  
 180 185 190  
 Glu Thr Glu Ile Asp Lys Phe Met Pro Ala Ser Arg Arg Gly Asn Arg  
 195 200 205  
 Asn Thr Tyr Cys Arg Ser Leu Arg Ala Phe Ser Asp Glu Asp Ile Arg  
 210 215 220  
 Ser Ala Glu Ser Ile Glu Ser Leu Gln Arg Leu Phe Gly Ser Arg Tyr  
 225 230 235 240  
 Met Lys Val Asn Leu Glu Ala Tyr Ser Arg His Arg Thr Val Glu Phe  
 245 250 255  
 Arg Gln His Ser Gly Thr Ile Asn Phe Thr Lys Ile Glu Asn Trp Val  
 260 265 270  
 Arg Phe Leu Gly Arg Leu Ile Ile Phe Ala Ser Thr Ser Ser Leu Pro  
 275 280 285  
 Ala Gly Ile Arg Leu Glu Asp Phe Pro Phe Leu Glu Glu Lys Gln Lys  
 290 295 300  
 Leu Tyr Tyr Lys Leu Arg Thr Lys Lys Leu Met Glu  
 305 310 315

<210> 6652

<211> 401

<212> PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6652

Asn	Asn	Met	Asn	Phe	Asn	Glu	Ile	Lys	Asn	Arg	Leu	Leu	Ile	Gly	Ala
1				5				10					15		
Leu	Ala	Ile	Thr	Val	Phe	Pro	Phe	Tyr	Val	His	Ala	Gln	Asn	Asp	Lys
				20				25					30		
Met	Glu	Gly	Gln	Thr	Ala	His	Arg	Thr	Lys	Ala	Trp	Glu	Ile	Gly	Val
	35				40							45			
Gly	Gly	Ala	Leu	Ile	Asn	Trp	Asp	Arg	Val	Thr	Phe	Ser	Asn	Phe	Arg
	50				55							60			
Gln	Val	Asp	Gly	Asn	Tyr	Leu	Tyr	Arg	Met	Asn	Ile	Asp	His	Leu	Phe
	65				70				75				80		
Gly	Gly	Ile	Gln	Leu	Tyr	Ala	Ala	Arg	Glu	Leu	Asn	Pro	Trp	Phe	Tyr
				85				90					95		
Leu	Asp	Leu	Gln	Gly	Thr	Leu	Gly	Leu	Ala	Arg	Lys	Gln	Val	Glu	Thr
				100				105					110		
Gly	Gly	Arg	Lys	Phe	Asp	Phe	Met	Tyr	Met	Ala	Gly	Pro	Gly	Leu	Gln
				115				120					125		
Phe	Arg	Leu	Thr	Pro	Leu	Phe	Lys	Ser	Lys	Tyr	Val	Glu	Pro	Tyr	Leu
	130				135						140				
Arg	Val	Gly	Val	Asn	Tyr	Leu	His	His	Asp	Phe	Tyr	Ala	Ile	Asn	Ala
	145				150				155				160		
Gly	Lys	Phe	Glu	Asn	Asp	Pro	Ile	Gly	Glu	Ala	Glu	Trp	Thr	Ser	Ser
				165				170					175		
Asn	Pro	Trp	Asn	Lys	Glu	Lys	Ile	Gly	Ser	Lys	Gln	Ser	Tyr	Phe	Pro
				180				185					190		
Leu	Ser	Phe	Gly	Ala	Gly	Val	Gln	Ala	Trp	Leu	Asn	Asp	His	Trp	Gly
				195				200					205		
Val	Gly	Leu	Gln	Gly	Glu	Tyr	Ile	Met	Pro	Val	Asp	Lys	Lys	Gln	Thr
				210				215					220		
Arg	Phe	Val	Gln	Ala	Ser	Met	Arg	Ile	Met	Phe	Arg	Leu	Gly	Gly	Ser
	225				230				235				240		
Thr	Lys	Arg	Pro	Met	Pro	Val	Val	Gln	Tyr	Ile	Asp	Arg	Pro	Val	Asp
				245				250					255		
Arg	Ile	Val	Glu	Arg	Ile	Val	Glu	Lys	Arg	Ile	Glu	Val	Pro	Ala	Val
				260				265					270		
Val	Glu	Ser	His	Val	Cys	Asp	Leu	Phe	Asp	Asn	Ile	His	Phe	Ala	Phe
				275				280					285		
Asp	Lys	Asp	Val	Ile	Thr	Ser	Glu	Ser	Glu	Ile	Thr	Leu	Asp	Lys	Ile
				290				295					300		
Ala	Asp	Leu	Leu	Lys	Ser	Tyr	Pro	Asp	Asn	Asn	Phe	Leu	Ile	Thr	Gly
	305				310					315				320	
Tyr	Thr	Asp	Ala	Arg	Gly	Ser	Asp	Asn	Tyr	Asn	Ile	Asp	Leu	Ser	Lys
				325				330					335		
Arg	Arg	Ala	Lys	Ala	Val	Tyr	Ser	Ala	Leu	Leu	Lys	Arg	Gln	Val	Pro
				340				345					350		
Gln	His	Met	Leu	Lys	Trp	Arg	Gly	Val	Gly	Tyr	His	Ala	Ser	Ser	Val
				355				360					365		
Pro	Ala	Ser	Gly	Pro	Asp	Lys	Val	Arg	Met	Gly	Asp	Arg	Lys	Val	Ser
				370				375					380		
Ile	Glu	Arg	Val	Thr	Asn	Ser	Asp	Tyr	Trp	Gly	Trp	Leu	Thr	Asn	Glu
	385				390					395				400	
Glu															

&lt;210&gt; 6653

&lt;211&gt; 301

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6653

Lys Asn Met Lys Thr Thr Gln Arg Thr Ala Gly Trp Tyr His Val Met  
 1 5 10 15  
 Ala Ala Val Thr Val Met Ile Trp Gly Thr Thr Phe Val Ala Thr Lys  
 20 25 30  
 Val Leu Ile Lys Tyr Gly Leu Ser Pro Val Asp Ile Leu Phe Tyr Arg  
 35 40 45  
 Phe Leu Leu Ala Tyr Ile Cys Ile Trp Phe Phe Ser Pro Arg Val Leu  
 50 55 60  
 Leu Ala Lys Ser Trp Gln Asp Glu Leu Arg Phe Val Gly Leu Gly Leu  
 65 70 75 80  
 Cys Gly Gly Ser Leu Tyr Phe Val Ala Glu Asn Thr Ala Leu Gly Met  
 85 90 95  
 Thr Leu Ala Ser Asn Val Ser Leu Ile Ile Cys Thr Thr Pro Ile Leu  
 100 105 110  
 Thr Ala Leu Leu Ala Pro Phe Phe Tyr Lys Gly Asp Lys Leu Lys Ala  
 115 120 125  
 Arg Leu Ile Gly Gly Ser Leu Met Ala Leu Ile Gly Val Gly Leu Val  
 130 135 140  
 Val Phe Asn Gly Ser Phe Ile Leu Gln Leu Ser Pro Ala Gly Asp Ile  
 145 150 155 160  
 Leu Thr Leu Ile Ala Ala Leu Met Trp Ala Phe Tyr Cys Leu Leu Leu  
 165 170 175  
 Arg Arg Met Asn Thr His Tyr Pro Thr Leu Phe Ile Thr Arg Lys Val  
 180 185 190  
 Phe Phe Tyr Gly Leu Val Thr Leu Leu Pro Leu Phe Leu Val Tyr Pro  
 195 200 205  
 Leu Gln Thr Asp Ile His Ile Leu Phe Arg Pro Val Val Ala Leu Asn  
 210 215 220  
 Leu Leu Phe Leu Gly Val Ile Ala Ser Met Leu Cys Tyr Ile Met Trp  
 225 230 235 240  
 Asn Thr Ala Val Lys Gln Leu Gly Val Val Cys Ala Thr Ser Tyr Ile  
 245 250 255  
 Tyr Val Val Pro Leu Ile Thr Leu Leu Thr Ser Ala Ile Val Ile Asp  
 260 265 270  
 Glu Thr Ile Thr Ile Val Ala Leu Leu Gly Ser Ala Leu Ile Leu Ser  
 275 280 285  
 Gly Val Tyr Ile Ala Glu Arg Gly Val Asn Leu Lys Lys  
 290 295 300

&lt;210&gt; 6654

&lt;211&gt; 77

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6654

Leu Thr Met Asn Lys Val Val Tyr Val His Leu Val Phe Glu Lys Lys  
 1 5 10 15  
 Asp Tyr Phe Phe Gly Ser Ile Ala Ala Ile Tyr Asp Tyr Leu Ser Ala  
 20 25 30  
 Asp Gln Ile Gly Ala Gly Tyr Asn Thr Leu Arg Asn Val Arg Trp Lys  
 35 40 45  
 Glu Thr Ser Val Tyr Val Thr Pro Lys Ala Ile Ile Lys Ile Gly Lys  
 50 55 60  
 Leu Leu Arg Ala Gly Ser Cys Lys Lys Gln Pro Ile Lys  
 65 70 75

<210> 6655  
<211> 186  
<212> PRT  
<213> B.fragilis

<400> 6655

Ser	Val	Thr	Lys	Met	Asn	Thr	Asn	Lys	Glu	Phe	Leu	Thr	Lys	Met	Ile
1				5				10					15		
Arg	Val	Ser	Pro	Ser	Val	Lys	Lys	Arg	Met	Glu	Ile	Phe	Gln	Gly	Gly
					20			25					30		
Asp	Ser	Ala	Asn	Ser	Cys	Ile	Asp	Arg	Met	Ile	Thr	Phe	Phe	Glu	Ile
					35			40				45			
Thr	Gly	Phe	Asn	Pro	Arg	Tyr	Ala	Ser	Arg	Asn	Pro	Thr	Ala	Leu	Val
					50			55			60				
Glu	Lys	Arg	Ile	Glu	Asp	Val	Val	Arg	Ile	Ile	Lys	Ser	Gln	Glu	Arg
					65		70		75			80			
Asp	Ile	Leu	Lys	Pro	Val	Leu	Glu	Lys	Leu	Ser	Ala	Ile	Asn	Asn	Thr
					85			90			95				
Pro	Gln	Glu	Ser	Pro	Asp	Tyr	Ala	Arg	Leu	Met	Asn	Glu	Leu	Arg	Asp
					100			105			110				
Leu	Lys	Asp	Glu	Asn	Arg	Lys	Leu	Lys	Glu	Arg	Leu	Gln	Ala	Asp	Asp
					115			120			125				
Leu	His	Thr	Gln	Asp	Ala	Ala	Val	Tyr	Gln	Asp	Lys	Leu	Lys	Arg	Leu
					130		135			140					
Gly	Gly	Leu	Leu	Lys	Tyr	Gln	Leu	Asp	Pro	Glu	Lys	Phe	Pro	Arg	Ile
					145		150			155		160			
Lys	Tyr	Ser	Asp	Asp	Val	Arg	Val	Pro	Val	Asn	Thr	Leu	Gln	Leu	Leu
					165			170			175				
Ile	Lys	Lys	Ile	Asn	Glu	Glu	Tyr	Val	Leu						
					180			185							

<210> 6656  
<211> 152  
<212> PRT  
<213> B.fragilis

<400> 6656

Arg	Lys	Thr	Lys	Pro	Gly	Lys	Lys	Arg	Gly	Ala	Ser	Thr	Ile	Ser	
1				5				10			15				
Gln	Gln	Thr	Ala	Lys	Asn	Val	Phe	Leu	Trp	Pro	Gln	Ser	Ser	Trp	Ile
					20			25			30				
Arg	Lys	Gly	Phe	Glu	Val	Tyr	Phe	Thr	Phe	Leu	Ile	Glu	Thr	Cys	Trp
					35		40			45					
Ser	Lys	Glu	Arg	Ile	Met	Glu	Val	Tyr	Leu	Asn	Ser	Ile	Glu	Met	Gly
					50		55			60					
Lys	Gly	Ile	Tyr	Gly	Ala	Gln	Ala	Thr	Ala	Lys	Tyr	Lys	Phe	Lys	Thr
					65		70		75			80			
Thr	Ala	Ala	Lys	Leu	Thr	Arg	Gly	Gln	Cys	Ala	Leu	Ile	Ala	Ala	Thr
					85			90			95				
Leu	Pro	Asn	Pro	Ile	Arg	Phe	Asp	Ser	Ala	His	Pro	Ser	Pro	Tyr	Ile
					100			105			110				
Lys	Arg	Arg	Gln	Gly	Gln	Ile	Leu	Arg	Leu	Met	Asn	Leu	Val	Pro	Lys
					115		120			125					
Phe	Pro	Pro	Val	Asp	Lys	Glu	Lys	Ala	Lys	Gly	Gln	Asp	Thr	Lys	Lys
					130		135			140					
Gln	Lys	Asn	Lys	Lys	Lys	Lys	Lys								
					145		150								

<210> 6657

<211> 204  
<212> PRT  
<213> B.fragilis

<400> 6657

Leu	Ile	Lys	Asn	Thr	Ile	Asp	Ser	Pro	Asn	Asn	Asp	Arg	Ser	Ile	Met
1					5				10					15	
Tyr	Lys	Ile	Ile	Phe	Val	Phe	Leu	Ala	Ile	Met	Gly	Ile	Ala	Thr	Ala
									20	25			30		
Ser	Cys	Ala	Gln	Gln	Lys	Gln	Gly	Ala	Asn	Arg	Lys	Gln	Pro	Asn	Asn
									35	40		45			
Lys	Val	Leu	Ile	Ala	Tyr	Phe	Ser	Ala	Thr	Gly	Thr	Thr	Ala	Gly	Ala
									50	55		60			
Ala	Glu	Lys	Leu	Ser	Lys	Val	Thr	Gly	Gly	Glu	Leu	Tyr	Glu	Ile	Thr
									65	70	75		80		
Pro	Ala	Gln	Pro	Tyr	Thr	Asn	Ala	Asp	Leu	Asn	Trp	Asn	Asn	Lys	Gln
									85	90		95			
Ser	Arg	Ser	Ser	Leu	Glu	Met	Asn	Asp	Pro	Lys	Ser	Arg	Pro	Ala	Ile
									100	105		110			
Arg	Lys	Ser	Ser	Ile	Asp	Ile	Ala	Asp	Tyr	Asp	Val	Ile	Phe	Val	Gly
									115	120		125			
Tyr	Pro	Ile	Trp	Trp	Asn	Leu	Ala	Pro	Arg	Ile	Ile	Asn	Thr	Phe	Ile
									130	135		140			
Glu	Ser	Tyr	His	Leu	Lys	Asn	Lys	Thr	Ile	Ile	Leu	Phe	Ala	Thr	Ser
									145	150		155		160	
Gly	Ser	Ser	Ser	Ile	Thr	Asn	Ser	Met	Ala	Thr	Leu	Lys	Lys	Ser	Tyr
									165	170		175			
Pro	Glu	Leu	Ile	Trp	Lys	Glu	Gly	Lys	Leu	Leu	Asn	Gly	Met	Asn	Glu
									180	185		190			
Asn	Asp	Ile	Arg	Glu	Trp	Ile	Ser	Lys	Leu	Asp	Tyr				
									195	200					

<210> 6658  
<211> 92  
<212> PRT  
<213> B.fragilis

<400> 6658

Leu	Ser	Trp	Asn	Asn	Ser	Asn	Ser	Ala	Trp	Pro	Leu	Leu	Tyr	Lys	Lys
1									5		10		15		
Glu	His	Gln	Arg	Pro	Ile	Thr	Ala	Lys	Tyr	Thr	Gly	Leu	His	Cys	Ile
									20	25		30			
Lys	Ser	Lys	Gln	Pro	Thr	Ile	Tyr	Lys	Asn	Glu	Leu	Tyr	Lys	Ser	Val
									35	40		45			
Gln	Ser	Ile	Val	Lys	Lys	Ser	Phe	Glu	Thr	Leu	Ser	Phe	Ile	Leu	Cys
									50	55		60			
Glu	Ile	Cys	Ser	Asp	Lys	His	Glu	Ile	Ile	Leu	Asn	His	Leu	Tyr	Ala
									65	70	75		80		
Leu	Tyr	Ile	Leu	Ser	Leu	Pro	Ile	Val	Ile	Phe	Met				
									85	90					

<210> 6659  
<211> 105  
<212> PRT  
<213> B.fragilis

<400> 6659

Ile	Pro	Asn	Leu	Leu	Gly	Val	Gly	Met	Gly	Phe	Ile	Gln	Val	Tyr	Asn
1									5		10		15		

Gly Asn Leu Lys Tyr Val Ala Thr Lys Asp Arg Lys Glu Val Asn Met  
   20               25               30  
 Ala Gly Lys Asn Ile His Val Val His Asn Gly Asp Gln Trp Lys Val  
   35               40               45  
 Lys Gln Glu Asn Ala Gln Arg Ser Ser Gly Asn Phe Arg Thr Gln Gln  
   50               55               60  
 Glu Ala Phe Glu Arg Ala Arg Glu Ile Ala Ile Lys Asn Gly Gln Glu  
   65               70               75               80  
 Val Ala Ile His Gly Leu Asp Gly Arg Ile Arg Glu Lys His Ser Tyr  
   85               90               95  
 Gly Asn Asp Pro Tyr Pro Pro Glu Gly  
   100              105

&lt;210&gt; 6660

&lt;211&gt; 206

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6660

Ile Glu Thr Glu Ser His Thr Phe Gly Ser Ser Leu Ile Thr Leu Arg  
   1               5               10               15  
 Ile Lys Arg Ile Met Asn Leu Leu Ile Ile Leu Gly Ile Ile Ile Ile  
   20               25               30  
 Leu Val Ile Ile Ile Ala Ser Met Tyr Asn Ser Leu Val Lys Leu Arg  
   35               40               45  
 Asn Asn Arg Glu Asn Ala Phe Ala Asp Ile Asp Val Gln Leu Lys Gln  
   50               55               60  
 Arg His Asp Leu Ile Pro Gln Leu Val Asp Thr Val Lys Gly Tyr Ala  
   65               70               75               80  
 Ala His Glu Lys Glu Thr Leu Glu Arg Val Ile Gln Ala Arg Asn Gly  
   85               90               95  
 Ala Val Ser Ala Arg Thr Ile Asp Glu Lys Ile Thr Ala Glu Asn Gln  
   100              105              110  
 Leu Ser Ser Ala Leu Ala Gly Leu Lys Ile Thr Leu Glu Ala Tyr Pro  
   115              120              125  
 Asp Leu Lys Ala Asn Gln Asn Phe Leu Gln Leu Gln Glu Glu Ile Ser  
   130              135              140  
 Asp Val Glu Asn Lys Leu Ala Ala Val Arg Arg Tyr Phe Asn Ser Ala  
   145              150              155              160  
 Thr Lys Glu Leu Asn Asn Ala Val Gln Thr Phe Pro Ser Asn Leu Ile  
   165              170              175  
 Ala Asn Met Phe Gly Phe His Lys Glu Met Met Phe Asp Leu Gly Thr  
   180              185              190  
 Glu Gln Arg Ala Asn Leu Glu Glu Ala Pro Lys Ile Lys Phe  
   195              200              205

&lt;210&gt; 6661

&lt;211&gt; 436

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6661

Val Arg Ala Glu Ser Gly Ser Thr Leu Glu Glu Arg Lys Asn Gln Val  
   1               5               10               15  
 Val Arg Phe Arg Arg Asp Arg Pro Gly Gly Gly Ala Thr Ala Gly Arg  
   20               25               30  
 Cys His Arg Gly Glu Gly His Arg Asp Phe Arg Arg Arg Gly Tyr Gly  
   35               40               45  
 Arg Arg Leu Arg Leu Arg Arg Gly Cys Gly Arg Leu Gly Arg Leu Arg

50	55	60
Gly His Arg Thr Ser Ser Leu Ile Cys Ile Glu Ser Tyr Gln Asn Ile		
65	70	75
Phe Ile His Asn Leu Ile Phe Asn Gln Met Lys Lys Ile Phe Leu Ile		80
85	90	95
Gly Leu Ala Ala Thr Ala Met Leu Ala Ser Cys Ser Asn Asp Glu Thr		
100	105	110
Val Glu Met Ala Gln Ser Lys Ala Ile Gly Phe Ser Asn Ala Phe Val		
115	120	125
Asn Asn Gly Thr Arg Ser Ile Val Asp Pro Ser Phe Thr Ser Thr Ser		
130	135	140
Leu Glu Asp Phe Ala Val Tyr Gly Phe Thr Arg Ala Gly Gln Ile Phe		
145	150	155
Lys Gly Asp Lys Val Tyr Lys Glu Ser Leu Glu Ser Thr Pro Gln Trp		160
165	170	175
Ser Tyr Asp Val Leu Gln Tyr Trp Val Pro Asp Asn Thr Tyr Thr Phe		
180	185	190
Gly Ala Ile Ala Pro Tyr Ser Val Ala Thr Asn Val Phe Asp Val Ala		
195	200	205
Leu Pro Glu Asn Ala Thr Lys Val Glu Met Lys Val Ala Phe Thr Asn		
210	215	220
Thr Asp Ala Asp Gln Val Asp Leu Leu His Ala Ala Pro Thr Gln Ile		
225	230	235
Ala Gly Thr Glu Val Thr Glu Thr Tyr Ala Thr Pro Val Ser Met Thr		
245	250	255
Phe Asp His Gln Leu Ser Lys Val Lys Phe Ser Phe Glu Asn Ala Val		
260	265	270
Gly Glu Gly Tyr Asn Val Lys Val Ser Asn Val Arg Ile Thr Asp Ala		
275	280	285
Tyr Thr Lys Gly Thr Leu Thr Val Thr Ala Ala Gly Asn Ile Trp Ser		
290	295	300
Ala Gln Ala Asp Asn Asn Leu Ile Leu Asn Phe Gly Asn Val Val Ala		
305	310	315
Asn Asp Ala Thr Ala Asp Glu Ala Ala Val Ile Ala Asn Ala Thr Thr		
325	330	335
Ser Glu Ser Tyr Asn Glu Lys Leu Met Ile Pro Met Ala Ala Thr Ala		
340	345	350
Thr Tyr Thr Val Thr Phe Thr Ala Glu Leu Tyr His Gly Asp Val Leu		
355	360	365
Leu Gly Ser Tyr Asn His Glu Val Thr Ile Lys Asn Val Glu Phe Lys		
370	375	380
Leu Gly Tyr Cys Tyr Asp Phe Lys Ala Thr Leu Thr Ser Ser Asn Ile		
385	390	395
Thr Asp Lys Pro Leu Asn Pro Ile Lys Phe Glu Val Asp Asn Ile Thr		
405	410	415
Asp Trp Asn Lys Thr Asp Ile Asp Lys Asp Leu Ala Val Pro Thr Thr		
420	425	430
Gln Ser Gly Asn		
435		

&lt;210&gt; 6662

&lt;211&gt; 73

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6662

Gly Gln Gln Asp Asn Phe Phe Leu Tyr Thr Phe Val Tyr Ala Lys Tyr		
1	5	10
Lys Met Tyr Thr Tyr Asn Arg Leu Ile Ile Asn Ala Met Arg Arg Phe		15

20	25	30
Met Phe Pro Cys Ala Gly Thr Pro	Leu Ala Leu Pro Tyr Gln Glu Phe	
35	40	45
Thr Lys Gly Pro Pro Ala Leu Ser Pro Gly Arg Phe Arg Glu Ala Arg		
50	55	60
Asn Ile Arg Gln Gly His Gly Cys Trp		
65	70	

&lt;210&gt; 6663

&lt;211&gt; 887

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6663

Asn Asn Ile Leu Met Arg Pro Ser His Phe Thr Leu His Ser Cys Arg			
1	5	10	15
Asp Ala Phe Ser His Phe Leu Leu Phe Thr Leu Val Ser Gly Ser Ile			
20	25	30	
Cys Leu Ser Ser Cys Glu Asp Asp Met Asp Arg Pro Ser Pro Ser Ser			
35	40	45	
His Val Ser Phe Thr Thr Glu Ile Ser Ser Ser Arg Thr Pro Ser Thr			
50	55	60	
Arg Ser Thr Thr Asp Thr Asp Thr Pro Gln Gly Thr Val Thr Ala Leu			
65	70	75	80
Gln Gly Gly Ser Thr Pro Leu Tyr Leu His Thr Leu Tyr Thr Asp Ser			
85	90	95	
Ile Ala Leu Pro Pro Ser Asp Ser Arg Pro Asp Arg Gly Val Leu Thr			
100	105	110	
Arg Ala Thr Pro Ile Lys Asp Ala Asn Met Tyr Glu Ser Phe Gly Val			
115	120	125	
Ser Ala Tyr Ser Tyr Thr Gly Ser Trp Ser Glu Asp Lys Thr Pro Asn			
130	135	140	
Tyr Phe Tyr Asn Ala Thr Ala Ser Lys Ser Asp Gly Gly Tyr Thr Leu			
145	150	155	160
Ser Ser Thr Tyr Tyr Trp Pro Gly Ser Ser Tyr Lys Met Lys Phe Phe			
165	170	175	
Ala Tyr Ala Pro Thr Ala Asn Thr Gln Tyr Val Leu Ser Gly Arg Thr			
180	185	190	
His Ala Gly Ser Pro Thr Ile Ser Val Thr Ile Pro Gly Asp Val Asn			
195	200	205	
Asp Gln Lys Asp Leu Leu Val Ala Lys Thr Asp Glu Leu Ala Gly Asn			
210	215	220	
Thr Asn Thr Ala Val Ala Leu Ser Phe Asn His Ala Leu Thr Ala Ile			
225	230	235	240
Arg Phe Val Cys Gly Asp Asp Met Gln Val Gly Thr Val Lys Ser Val			
245	250	255	
Ser Leu Lys Asn Val Tyr Ser Lys Gly Thr Tyr His Met Gly Thr Gln			
260	265	270	
Ser Trp Ser Asn Val Gly Thr Pro Ala Thr Phe Pro Gln Thr Leu Asn			
275	280	285	
Lys Ser Ile Thr Gly Thr Pro Asp Glu Pro Leu Thr Val Asp Ala Gln			
290	295	300	
Thr Phe Met Met Val Pro Gln Thr Leu Pro Asp Gly Ala Gln Leu Glu			
305	310	315	320
Val Val Phe Thr Asp Asn Ser Ser Met Asp His Thr Leu Thr Ala Asp			
325	330	335	
Leu Lys Gly Thr Val Trp Pro Val Gly Lys Thr Val Thr Tyr Lys Ile			
340	345	350	
Ser Ser Ser Ser Ile Asn Trp Thr Tyr Thr Leu Ala Val Thr Ser Pro			

355	360	365
Ala Asp Phe Thr Tyr Glu Gly Gly Thr Gln Gln Tyr Asn Val Thr Ser		
370	375	380
Tyr Arg Gln Asn Thr Lys Gly Val Lys Glu Ala Val Ala Trp Thr Ala		
385	390	395
Gln Tyr Ser Glu Asp Gly Gly Ala Ser Trp Ser Asn Thr Arg Pro Gly		400
405	410	415
Trp Leu Asp Ala Phe Thr Val Ser Gly Asn Gly Gly Asp Thr Pro Gln		
420	425	430
Ser Tyr Asn Ala Thr Val Ile Ala Gln Thr Gly Val Glu Ala Asn Pro		
435	440	445
Gln His Thr Ala Ala Leu Gln Asn Ala Ser Val Lys Gly Thr Glu Thr		
450	455	460
Val Pro Tyr Asn Leu Ala Asn Gln Thr Asn Gly Gly Thr Val Asp Glu		
465	470	475
Asn Thr Ala Asn Cys Tyr Val Val Ser Gly Ser Gly Tyr Tyr Cys Phe		
485	490	495
Pro Leu Val Tyr Gly Asn Ala Ile Lys Gly Gly Thr Thr Asn Thr Ser		
500	505	510
Ala Tyr Thr Ser Thr Ala Pro Ser Gly Thr Thr Ile Leu Ser Pro Phe		
515	520	525
Ile Asn His Ala Gly Asn Ala Ile Thr Ala Pro Tyr Ile Arg Asn Asn		
530	535	540
Ala Asp Cys Thr Pro Ala Lys Ala Glu Leu Val Trp Gln Asp Ala Pro		
545	550	555
Asn Leu Val Thr Asp Ile Lys Tyr Asn Asn Thr Gly Asn Gly Asn Ile		
565	570	575
Ser Phe Thr Val Asp Lys Asn Thr Ile Arg Gln Gly Asn Ala Ile Ile		
580	585	590
Ala Ile Lys Asp Ala Gly Asp Asn Val Leu Trp Ser Trp His Ile Trp		
595	600	605
Val Thr Asp Glu Asp Ile Asn Asn Val Ile Glu Ile Thr Asn Phe Gln		
610	615	620
Gly Lys Lys Tyr Lys Leu Met Ser Val Asn Leu Gly Trp Cys Asp Gly		
625	630	635
Ser Thr Thr Asn Tyr Ala Glu Arg Ser Cys Lys Val Lys Phe Thr Ala		
645	650	655
Gly Gly Glu Ser Gln Thr Ile Thr Ile Arg Gln Ala Ser Lys Ser Ile		
660	665	670
Val Val Gly Asn Asn Pro Tyr Tyr Gln Trp Gly Arg Lys Asp Pro		
675	680	685
Phe Leu Pro Ser Asn Gly Leu Arg Asp Ile Asn Lys Thr Trp Tyr Asp		
690	695	700
Lys Asp Gly Asn Ala His Thr Gly Ser Pro Lys Thr Glu Asp Phe Ser		
705	710	715
Ile Gly Ala Pro Cys Ile Thr Asn Tyr Ile Leu Lys Pro Asp Val Met		
725	730	735
Gln Ser Gln Asp Tyr Gly Asp Asn Thr Tyr Ala Asn Leu Trp Ser Ala		
740	745	750
Asp Asn Asn Val Tyr Thr Ala Asn Asp Glu Asn Val Ile Lys Thr Ile		
755	760	765
Tyr Asp Pro Ser Pro Val Gly Phe Lys Val Pro Pro Ser Asn Ala Phe		
770	775	780
Thr Gly Phe Thr Thr Gly Asn Asn Thr Ser Thr Ser Ser Glu Ile		
785	790	795
Asn Gly Thr Trp Asp Ser Ser Leu Lys Gly Trp Asn Phe Tyr Thr Asp		
805	810	815
Ser Ser Lys Asn Lys Thr Ile Phe Phe Pro Ala Ser Gly Phe Arg Asp		
820	825	830

Tyr Ser Tyr Gly Gly Ala Leu Ile Val Gly Ser Tyr Gly Tyr Cys Trp  
 835 840 845  
 Ser Ala Val Pro Ser Ile Gln Tyr Tyr Ala Arg Asn Leu Asn Phe Asn  
 850 855 860  
 Ser Ser Phe Val Asn Pro Leu Asn Asn Ser Ser Arg Ala Cys Gly Phe  
 865 870 875 880  
 Gly Val Arg Ser Ser Gln Glu  
 885

<210> 6664

<211> 87

<212> PRT

<213> B.fragilis

<400> 6664

Arg Gly Val Leu Pro Pro Cys Lys Ala Val Thr Val Pro Cys Gly Val  
 1 5 10 15  
 Ser Val Ser Val Val Glu Arg Val Asp Gly Val Arg Glu Glu Leu Ile  
 20 25 30  
 Ser Val Val Lys Glu Thr Cys Glu Glu Gly Gly Arg Ser Met Ser  
 35 40 45  
 Ser Ser Gln Glu Glu Arg Gln Ile Leu Pro Glu Thr Ser Val Lys Ser  
 50 55 60  
 Arg Lys Cys Glu Lys Ala Ser Leu Gln Glu Cys Asn Val Lys Trp Glu  
 65 70 75 80  
 Gly Leu Ile Ser Ile Leu Phe  
 85

<210> 6665

<211> 67

<212> PRT

<213> B.fragilis

<400> 6665

Ala Thr Leu Trp Glu Thr Ile Met Gln Pro Ser Ala Phe Leu Arg Asp  
 1 5 10 15  
 Lys Val Glu Asn Ser Lys Asn Arg Leu Ser Glu Ala Leu Thr Lys Leu  
 20 25 30  
 Asp Gly Thr Val Ser Ser Leu His Glu Ala Ser Thr Ile Ser Val Ser  
 35 40 45  
 Ala Lys Ala Lys Arg Thr Leu Glu Gln Gly Arg Glu Ala Thr Cys Gln  
 50 55 60  
 Lys Lys Gly  
 65

<210> 6666

<211> 61

<212> PRT

<213> B.fragilis

<400> 6666

Glu Asn Gly Arg Ala Asn Arg Pro Cys Thr Glu Pro Glu Val His Thr  
 1 5 10 15  
 Gln Ser Lys His Asn His Pro Leu Arg Val Ile Pro Glu Ser Lys Pro  
 20 25 30  
 Lys Asn Asn Glu Ser Leu Glu Lys Ser Leu Pro Thr Met Pro Val His  
 35 40 45  
 Leu Ser Ala Ile Ile His Ser Ser Pro Gly Lys Gly Gly  
 50 55 60

<210> 6667  
<211> 171  
<212> PRT  
<213> B.fragilis

<400> 6667

Lys	Pro	Gln	Arg	Met	Lys	Ser	Leu	Ser	Phe	Arg	Lys	Asp	Leu	Ile	Gly
1				5				10						15	
Val	Gln	Glu	Glu	Leu	Leu	Arg	Phe	Ala	Tyr	Lys	Leu	Thr	Ala	Asn	Arg
				20				25						30	
Glu	Glu	Ala	Asn	Asp	Leu	Leu	Gln	Glu	Thr	Ser	Leu	Lys	Ala	Leu	Asp
				35				40				45			
Asn	Glu	Asp	Lys	Phe	Met	Pro	Asp	Thr	Asn	Phe	Lys	Gly	Trp	Met	Tyr
				50				55			60				
Thr	Ile	Met	Arg	Asn	Ile	Phe	Ile	Asn	Asn	Tyr	Arg	Lys	Ile	Val	Arg
65					70				75					80	
Asp	Gln	Thr	Tyr	Val	Asp	Gln	Thr	Asp	Asn	Leu	Phe	His	Leu	Asn	Leu
					85				90				95		
Pro	Gln	Asp	Ser	Gly	Phe	Glu	Ser	Thr	Glu	Gly	Ala	Tyr	Asp	Leu	Lys
					100				105				110		
Glu	Met	His	Arg	Val	Val	Asn	Ala	Leu	Pro	Lys	Glu	Tyr	Lys	Val	Pro
				115				120				125			
Phe	Ser	Met	His	Val	Ser	Gly	Phe	Lys	Tyr	Arg	Glu	Ile	Ala	Glu	Lys
				130				135			140				
Leu	Glu	Leu	Pro	Leu	Gly	Thr	Val	Lys	Ser	Arg	Ile	Phe	Phe	Thr	Arg
145					150				155				160		
Gln	Arg	Leu	Gln	Gln	Glu	Leu	Lys	Asp	Phe	Val					
					165				170						

<210> 6668  
<211> 744  
<212> PRT  
<213> B.fragilis

<400> 6668

Asp	Arg	Phe	Ser	Ile	Val	Tyr	Ser	Gly	Ile	Ile	Ile	His	Gly	Ile	Asp
1				5				10				15			
Asp	Leu	Pro	Thr	Gly	Cys	Lys	Gly	Leu	Asn	Val	Pro	Leu	His	Ser	Leu
				20				25				30			
Thr	Ala	Val	Gln	Ala	Asn	Lys	Tyr	Lys	Thr	Glu	Met	Lys	Val	His	
				35				40			45				
Lys	Lys	Asn	Pro	Ser	Trp	Met	Ala	Gly	Gly	Met	Ala	Thr	Met	Leu	Leu
				50				55			60				
Cys	Thr	Leu	Leu	Phe	Ser	Cys	Asn	Asn	Glu	Asp	Phe	Leu	Glu	Ser	Gly
				65				70			75		80		
Asn	Pro	Glu	Lys	Ala	Gly	Asp	Asn	Ile	Cys	Phe	Gly	Ile	Ser	Ser	Asp
				85				90			95				
Lys	Asn	Met	Gln	Thr	Arg	Gly	Tyr	Ala	Gly	Ser	Asp	Asp	Glu	Gly	Tyr
				100				105			110				
Thr	Ala	Asp	Arg	Phe	Val	Leu	Arg	Ser	Asp	Asp	Ser	Ala	Asp	Thr	Leu
				115				120			125				
Cys	Val	Arg	Ala	Ile	Val	Ser	Asp	Gly	Ile	Asn	Val	Ser	Gly	Phe	Glu
				130				135			140				
Gly	Glu	Gln	Ala	Leu	Thr	Arg	Gly	Thr	Leu	Val	Gly	Lys	Asp	Asn	Phe
				145				150			155		160		
Tyr	Asn	Lys	Phe	His	Val	Leu	Ala	Tyr	Trp	Ser	Lys	Asn	Gly	Ala	Ser
				165				170			175				
Ile	Asp	Gln	Phe	Tyr	Met	Asn	Thr	Asn	Ala	Ser	Asn	Ala	Ala	Ser	

180	185	190
Val Gly Thr Gly Ala Ile Trp Ser	Thr Glu Gln Ile Tyr	Tyr Trp Pro
195	200	205
Gly Ala Asp His Ser Phe Gln	Phe Tyr Ala Trp Ala	Pro Thr Asp Ala
210	215	220
Gly Gly Leu Ile Thr Pro Ser Asp Pro Ser Ser	Lys Glu Leu Lys Tyr	
225	230	235
Thr Val Pro Ala Asp Ala Ala Asp Gln	Lys Asp Ile Val Val Ala	Thr
245	250	255
Thr Asn Glu Ile Pro Gly Asn Asn Ala Ala Val	Pro Leu Asn Phe	
260	265	270
Lys His Ile Cys Thr Ala Val Arg	Phe Ala Val Gly Ser	Gln Met Gln
275	280	285
Pro Gly Ser Ile Lys Ser Val Ala Leu Lys Gly	Val Lys Asn Ala Gly	
290	295	300
Thr Tyr Asp Met Val Ala Gly Thr Trp Thr	Leu Gly Asp Ala Thr	Val
305	310	315
Asp Phe Ser Gln Glu Leu Asn Lys Glu	Thr Thr Gly Ser	Glu Ala Asn
325	330	335
Gly Ala Glu Ile Thr Ser Ala Glu Gly	Thr Phe Met Met	Leu Pro Gln
340	345	350
Thr Leu Pro Ala Asp Ala Met Val	Glu Val Val Phe	Thr Asn Ala Asn
355	360	365
Ala Ser Gly Val Asp Arg Thr	Leu Thr Ala Ser Ile	Gly Asn Thr Glu
370	375	380
Trp Lys Thr Gly Thr Thr Val Thr Tyr	Ile Leu Ser Ile	Thr Pro Glu
385	390	395
Tyr Glu Leu Glu Phe Val Ser Gln Pro	Glu Thr Gln Asp Ala	His Tyr
405	410	415
Val Ile Tyr Pro Ile Ala Ile Lys Ala Asp	Lys Phe Pro Glu Gly	Gly
420	425	430
Trp Thr Leu Thr Ser Asn Asp	Lys Glu Asn Val Thr	Phe Val Glu Lys
435	440	445
Phe Ala Asp Asp Gly Ile Lys Asn Leu Val Asp	Gln Gly Tyr Trp	Leu
450	455	460
Lys Asp Tyr Cys Gly Ala Ser Thr	Leu Thr Gly Ser Ser	Phe Gly Glu
465	470	475
Val Pro Ile Tyr Val Phe Leu Lys Glu Asn	Ile Ser Glu Lys Asp	Arg
485	490	495
Glu Ile Val Leu Ser Leu Ala Pro	Asn Asp Pro Asn Ala	Lys Pro
500	505	510
Lys Thr Phe Thr Phe Lys Gln His	Cys Pro Ala Trp Asn Asn	Gly Ile
515	520	525
Gly Val Glu Arg Ile Gln Gly Lys Asp	Tyr Pro Trp Gly Phe	Asn Trp
530	535	540
Ser Ser Asp Met Lys Ile Thr Tyr	Ser Met Pro Ser	Gly Leu Trp Ser
545	550	555
Gly Ile Ile His Val Leu Phe Glu	Ile Phe Gly Asp His	Ser Tyr Val
565	570	575
Glu Ser Ser Gly Leu Ala Val Leu	Gly Thr Trp Lys Val	Ile Val Asn
580	585	590
Phe Ala Lys Val Pro Ser Leu Thr	Ile Ala Ile Ser Pro	Thr Asp Gly
595	600	605
Ile Thr Asn Thr Trp Glu Leu Tyr	Asn Phe Asp Gly	Ile Asn Glu Ala
610	615	620
Ser Ile Ile Met Ser Gln Leu Glu	Ser Trp Gly Gly	Val Pro Asp Lys
625	630	635
Glu Leu Pro Val Asn Pro Ser Glu	Phe Val Ala Trp Ala	Cys Ala Lys
645	650	655

Lys Asn Arg Phe Gly Val Glu Arg Lys Ser Asn Ser Gly Glu Thr Ile  
 660 665 670  
 Tyr Val Pro Thr Leu Glu Gln Thr Asp Met Val Trp Tyr Leu Pro Ala  
 675 680 685  
 Gln Glu Glu Ala Leu Tyr Met Lys Asp Asp Leu Ser Glu Asn Tyr Trp  
 690 695 700  
 Thr Ser Thr Ala Ile Thr Asp Pro Gly Thr Thr Ala Tyr Thr Tyr Thr  
 705 710 715 720  
 Ala Glu Ser Gly Ser Thr Ser Gly Met Asp Arg Asn Glu Val Ile His  
 725 730 735  
 Val Arg Ala Val Arg Lys Lys Pro  
 740

&lt;210&gt; 6669

&lt;211&gt; 497

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6669

Arg Gly Gly Ser Arg Ile Asp Arg Leu Pro Arg Ser Phe Tyr Phe Arg  
 1 5 10 15  
 Ser Tyr Ile Gly Phe His Ile Ile Asp Leu Tyr Ile Leu Phe Leu Gln  
 20 25 30  
 Lys Arg Ile Ser Thr His Ser Phe Leu Thr Tyr Met Tyr Thr Glu Ile  
 35 40 45  
 Ile Asn Lys Tyr Asn Val Pro Val Pro Arg Tyr Thr Ser Tyr Pro Pro  
 50 55 60  
 Ala Asn Tyr Phe Glu Pro Phe Thr Asn Ala Arg Tyr Leu Glu Ala Val  
 65 70 75 80  
 Gln Gln Ser Asn Gln Ala Ser Glu Arg Ala Leu Ser Phe Tyr Leu His  
 85 90 95  
 Ile Pro Phe Cys Arg His Leu Cys His Tyr Cys Gly Cys Asn Ser Tyr  
 100 105 110  
 Pro Met Ala Arg Pro Glu Ile Ile Glu Ser Tyr Val Val Ala Leu His  
 115 120 125  
 Gln Glu Ile Asp Leu Ile Leu Pro Leu Leu Asp Lys Asp Arg Pro Ile  
 130 135 140  
 Ala Gln Ile His Tyr Gly Gly Ser Pro Thr Ala Ile Pro Val Ala  
 145 150 155 160  
 Leu Ile Lys Glu Leu Asn Ala His Leu Leu Ser Ser Phe Pro Ala Ile  
 165 170 175  
 Asp Arg Pro Glu Ile Ala Ile Glu Cys His Pro Gly Tyr Leu Ser Glu  
 180 185 190  
 Lys Asp Trp Leu Gln Leu Thr Glu Cys Gly Phe Asn Arg Leu Ser Ile  
 195 200 205  
 Gly Val Gln Asp Phe Asn Ile Glu Val Leu Lys Thr Val Asn Arg Arg  
 210 215 220  
 Pro Ser Leu Leu Pro Met Glu Asp Ile Phe Ile Leu Leu Arg Glu Lys  
 225 230 235 240  
 Gly Ile Ser Ile Asn Leu Asp Phe Leu Tyr Gly Leu Pro Lys Gln Thr  
 245 250 255  
 Val Glu Asn Phe Thr Arg Asn Ile Lys Gln Ala Ile Leu Leu Ser Pro  
 260 265 270  
 Asp Arg Leu Val Met Phe Ser Tyr Ala His Val Pro Trp Ile Asn Lys  
 275 280 285  
 Arg Gln Leu Leu Leu Glu Lys Ser Gly Leu Pro Asp Asn His Glu Lys  
 290 295 300  
 Gln Thr Met Phe Asp Thr Ala Ala Gly Leu Leu His Lys Ser Gly Tyr  
 305 310 315 320

Gln Ser Ile Gly Met Asp His Phe Val Leu Pro Asn Asp Glu Leu Ser  
                   325                     330                 335  
 Ile Ala Met Gln Thr Lys Lys Leu His Arg Asn Phe Gln Gly Tyr Cys  
                   340                     345                 350  
 Thr Arg Arg Thr Thr Ala Gln Val Tyr Gly Leu Gly Val Thr Ala Ile  
                   355                     360                 365  
 Ser Gln Leu Glu Ser Ala Tyr Ala Gln Asn Thr Lys Asp Ile Pro His  
                   370                     375                 380  
 Tyr Ile Lys Thr Ile Ser Lys Gly Glu Leu Ser Ile Thr Lys Gly Tyr  
                   385                     390                 395                400  
 Ala Leu Ser Pro Thr Glu Gln Leu Thr Arg Glu Val Ile Glu Thr Leu  
                   405                     410                 415  
 Met Cys Asn Gly Cys Ile Asp Trp Arg Asp Leu Ser Lys Arg Leu His  
                   420                     425                 430  
 Val Ser Val Ser Thr Leu Lys Ala Ala Thr Ala Tyr Asp Glu Lys Lys  
                   435                     440                 445  
 Leu Ser Gly Phe Ala Asp Asp Gly Leu Ile Tyr Tyr Thr Asp Asp Tyr  
                   450                     455                 460  
 Leu Glu Met Thr Thr Ala Gly Ser Ala Phe Val Arg Asn Val Ala Ala  
                   465                     470                 475                480  
 Ser Leu Asp Lys Leu Met Leu His Ser Pro His Ser Tyr Ser Lys Pro  
                   485                     490                 495

Leu

<210> 6670

<211> 71

<212> PRT

<213> B.fragilis

<400> 6670

Arg Gln Ile Arg Pro Ser Lys Ser Ser His Lys Arg Tyr Val Ile Tyr			
1                             5                         10                    15			
His Ile Val Thr Lys Val Lys Glu Gln Gly Gly Pro Ser Leu Thr			
20                     25                    30			
Pro Ser Phe Ala Gln Leu Lys Asn Tyr Thr Lys Ser Leu Pro Lys Ile			
35                     40                    45			
Asn Leu Phe Ile Asn Glu Lys Tyr Leu Ile Lys Gln Ser Pro Ser Val			
50                     55                    60			
Pro Val Ala Ile Ser Asp Gly			
65                             70			

<210> 6671

<211> 426

<212> PRT

<213> B.fragilis

<400> 6671

Ile Met Lys Arg Gly Lys Arg Leu Ile Leu Pro Leu Leu Gly Thr Leu			
1                             5                         10                    15			
Ile Leu Thr Ser Leu Phe Ser Cys Gly Val Asp Arg Trp Pro Glu Tyr			
20                     25                    30			
Tyr Pro Glu Thr Gly Arg Asp Ile Trp Ile Asp Ser Val Met Arg Gln			
35                     40                    45			
Glu Tyr Leu Trp Tyr Arg Asp Met Ser Ser Pro Ala Ala Pro Asp Tyr			
50                     55                    60			
Phe Gln Lys Pro Glu Ala Phe Leu Lys Ala Val Ala Ser Met Asp			
65                             70                     75                    80			
Asn Gly Phe Ser Lys Ile Asp Ser Leu Leu Asp Glu Pro Ile Pro Ser			

85	90	95													
Tyr	Gly	Phe	Asp	Tyr	Thr	Leu	Tyr	Lys	Val	Leu	Asp	Asn	Asp	Thr	Ala
100								105						110	
Tyr	Asn	Ala	Leu	Ile	Ser	Tyr	Val	Val	Pro	Gly	Ser	Pro	Ala	Glu	Glu
115							120						125		
Ala	Gly	Leu	Gln	Arg	Gly	His	Trp	Ile	Met	Met	Met	Asn	Gly	Asp	Tyr
130							135					140			
Ile	Thr	Lys	Lys	Val	Glu	Ser	Glu	Leu	Leu	Gln	Gly	Ser	Thr	Arg	Gln
145				150				155					160		
Leu	Gln	Ile	Gly	Val	Tyr	Lys	Glu	Val	Val	Gly	Glu	Asp	Gly	Glu	Val
165						170				175					
Thr	Gly	Gly	Val	Val	Pro	Ile	Gly	Glu	Thr	Thr	Met	Pro	Ala	Ser	Arg
180							185				190				
Ser	Leu	Val	Asp	Lys	Pro	Val	His	Arg	Phe	Glu	Ile	Ile	Pro	Trp	Asn
195							200				205				
Gly	Lys	Lys	Val	Gly	Tyr	Leu	Met	Tyr	Asn	Glu	Phe	Lys	Ala	Gly	Pro
210						215				220					
Thr	Thr	Asp	Ser	Gln	Ala	Tyr	Asn	Asp	Asp	Leu	Arg	Arg	Ala	Phe	Arg
225						230				235			240		
Asp	Phe	Gln	Thr	Gly	Gly	Val	Asn	Glu	Phe	Val	Leu	Asp	Leu	Arg	Tyr
245						250				255					
Asn	Thr	Gly	Gly	Ser	Leu	Asp	Cys	Ala	Gln	Leu	Leu	Cys	Thr	Met	Leu
260							265				270				
Ala	Pro	Ala	Asp	Lys	Met	Asn	Gln	Leu	Leu	Ala	Leu	Leu	Arg	Tyr	Ser
275						280				285					
Asp	Lys	Arg	Val	Glu	Ala	Asn	Gln	Asp	Leu	Thr	Phe	Asn	Pro	Glu	Leu
290						295				300					
Ile	Gln	Ser	Gly	Ala	Asn	Leu	Asn	Leu	Ser	Thr	Val	Tyr	Val	Leu	Thr
305						310				315			320		
Thr	Asn	Ala	Thr	Arg	Gly	Ala	Ala	Glu	Met	Val	Ile	Asn	Cys	Leu	Asn
325							330				335				
Pro	Tyr	Met	Lys	Val	Val	Leu	Ile	Gly	Thr	Lys	Thr	Ala	Gly	Glu	Tyr
340							345				350				
Val	Ala	Thr	Lys	Pro	Phe	Val	His	Pro	Thr	Asp	Arg	Phe	Ile	Leu	Asn
355							360				365				
Leu	Val	Val	Cys	Asn	Val	Tyr	Asn	Ala	Glu	Glu	Lys	Ser	Asp	Tyr	Ala
370						375				380					
Thr	Gly	Phe	Lys	Pro	Thr	Tyr	Glu	Asn	Glu	Asp	Ser	Tyr	Leu	Ser	
385						390				395			400		
Thr	Tyr	Leu	Pro	Phe	Gly	Asn	Thr	Asn	Glu	Thr	Leu	Leu	Asn	Ala	Ala
405							410				415				
Leu	Lys	Ile	Met	Ser	Gly	Ile	Thr	Asp	Lys						
420							425								

&lt;210&gt; 6672

&lt;211&gt; 203

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6672

Ile	Thr	Ile	Leu	Ile	Leu	Lys	Ser	Met	Lys	Lys	Asn	Phe	Ile	Thr	Val
1				5					10				15		
Thr	Pro	Asp	Ser	Gly	Thr	Ser	Gly	Ser	Ser	Asn	Thr	Ile	Ser	Val	Ala
								20		25			30		
Ala	Glu	Pro	Asn	Ile	Leu	Leu	Lys	Glu	Arg	Ser	Glu	Ile	Leu	Asn	Phe
								35		40			45		
Asn	Ala	Ser	Gly	Gly	Val	Ser	Lys	Ser	Val	Gln	Val	Ile	Gln	Asn	Ser
								50		55			60		
Met	Pro	Tyr	Phe	Pro	Ile	Arg	Phe	Pro	Phe	Val	Leu	Asn	Met	Asn	Lys

65	70	75	80
Phe Ile Gly Asn Leu Lys Val Asp Ser	Ser	Gly Val Leu Gln Gly Ala	
	85	90	95
Tyr Ser Ile Ser Glu Ile Lys Ser	Ile	Asp Pro Ser Ala Tyr Asp Ser	
	100	105	110
Ser Leu Gly Glu Gly Trp Gly Met	Gly	Ser Thr Gln Lys Met Leu Ile	
	115	120	125
Tyr Asp Pro Phe Ser Asn Val	Thr	Glu Ile Val Ala His Ile Ile Asp	
	130	135	140
Ser Ser Gly Thr Tyr Asp Ala Asn	Phe	Ile Ser Ser Asn Ala Asn Met	
	145	150	155
Gly Arg Ile Trp Gly Asp Pro Gly	Leu	Leu Tyr Gln Lys Leu Leu Lys	
	165	170	175
Ile Ile Ser Glu Asp Tyr Thr Lys	Gly	Gly Tyr Glu Ile Arg Ile Asn	
	180	185	190
Ser Val Leu Ala Met Lys Phe Val	Phe	Val Phe Val Glu	
	195	200	

&lt;210&gt; 6673

&lt;211&gt; 388

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6673

Ser Asn Ile Ile Ile Phe Met Lys Lys Asn Leu Leu Phe Thr Ala Ile			
	1	5	10
Ala Val Ala Val Leu Ala Ser Cys Ser Asn Asp Asp Val Val Asp Val			
		20	25
Asn Asn Gly Ser Gly Ile Ser Phe Arg Ala Ser Leu Asp Lys Ala Ile			
		35	40
Thr Arg Ser Asn Val Thr Asn Leu Gln Asn Leu Ala Ala Phe Asn Val			
		50	55
Thr Ala Ile Gly Asn Gly Ala Asn Phe Phe Thr Asp Leu Ser Val Thr			
		65	70
			75
Ser Thr Asp Asn Gly Thr Asn Trp Thr Thr Ala Ser Thr Tyr Tyr Trp			
		85	90
Pro Asn Tyr Ala Leu Ser Phe Phe Ala Tyr Ala Pro Gln Thr Pro Gly			
		100	105
Gly Thr Val Ser Ile Asp Asn Thr Ala Lys Lys Ile Thr Gly Phe Ser			
		115	120
Pro Ala Gln Ser Val Ala Asp Gln Lys Asp Leu Val Ile Ser Tyr Asn			
		130	135
Thr Gly Thr Lys Gly Ser Asn Glu Asn Ala Gly Val Ala Met Asn Phe			
		145	150
Lys His Ala Leu Ser Gln Ile Val Val Asn Ala Lys Cys Ser Asn Asp			
		165	170
Lys Ile Lys Ile Glu Val Leu Gly Val Lys Leu Val Asn Ala Ala Ala			
		180	185
Lys Ala Asp Phe Ala Phe Pro Glu Ala Val Thr Asn Thr Gly Tyr Thr			
		195	200
Leu Pro Gln Gly Gln Trp Ser Asn Leu Ser Glu Lys Asp Asp Pro Ser			
		210	215
Lys Ala Tyr Met Ile Arg Gly Asp Ala Pro Leu Thr Leu Thr Ala Asp			
		225	230
Ala Gln Ser Ile Met Phe Gly Asp Asn Asn Leu Met Leu Ile Pro Gln			
		245	250
Gln Leu Thr Ala Trp Asn Gly Thr Val Ala Thr Ala Gly Ala Tyr Leu			
		260	265
Ser Val Leu Cys Arg Ile Tyr Ser Leu Asp Gly Gly Asn Glu Thr Leu			

275	280	285	
Leu Tyr Pro Glu Pro Thr Ser Thr Asp Asp Lys Ser Gly Lys Tyr Ala			
290	295	300	
Phe Ser Ala Ile Gly Ile Asn Thr Asn Trp Glu Pro Gly Lys Lys Tyr			
305	310	315	320
Thr Tyr Thr Leu Asn Phe Cys Gly Asp Gly Gly Gly Gly Lys Ile			
	325	330	335
Asp Pro Thr Pro Thr Asp Pro Thr Lys Pro Thr Asp Pro Thr Val Asp			
	340	345	350
Pro Thr Pro Ile Asp Gly Gly Ser Gly Gly Asp Pro Ile Leu Gly Lys			
	355	360	365
Pro Ile Lys Phe Thr Val Thr Val Asp Asp Trp Thr Asp Gln Pro Val			
	370	375	380
Asp Val Pro Met			
385			

<210> 6674

<211> 291

<212> PRT

<213> B. fragilis

<400> 6674

290

<210> 6675  
<211> 415  
<212> PRT  
<213> B.fragilis

<400> 6675

Ser	Asn	Asp	Met	Asn	His	Met	Arg	Ile	Asn	Lys	Leu	Ser	Pro	Leu	Ser
1															
															15
Arg	Lys	Ala	Leu	Asn	Leu	Ser	Thr	Phe	Phe	Cys	Leu	Tyr	Ile	Ala	Gln
															30
Ala	Ile	Pro	Met	Ser	Phe	Phe	Ser	Thr	Ala	Ile	Gln	Val	Leu	Met	Arg
															45
Gln	Ala	Asp	Tyr	Ser	Leu	Ser	Ser	Ile	Ala	Leu	Leu	Gln	Leu	Ile	Lys
															60
Leu	Pro	Trp	Ile	Leu	Lys	Phe	Leu	Trp	Ala	Pro	Leu	Val	Asp	Arg	His
															80
Cys	Ile	Thr	Leu	Lys	Asp	Tyr	Lys	Arg	Cys	Ile	Ile	Thr	Ser	Glu	Ile
															95
Val	Tyr	Ala	Leu	Leu	Ile	Leu	Met	Val	Gly	Leu	Leu	Asp	Ile	Gln	Thr
															110
Asp	Leu	Tyr	Leu	Ile	Ile	Gly	Leu	Val	Phe	Leu	Ser	Leu	Ile	Ala	Ser
															125
Ala	Thr	Gln	Asp	Ile	Ala	Thr	Asp	Thr	Leu	Ala	Val	Leu	Ser	Phe	Gly
															140
Lys	Ser	Asp	Lys	Ser	Leu	Val	Asn	Ser	Met	Gln	Ser	Met	Gly	Ser	Phe
															160
Gly	Gly	Thr	Leu	Ile	Gly	Thr	Gly	Ile	Leu	Leu	Leu	Val	Leu	Gln	His
															175
Tyr	Gly	Trp	His	Val	Val	Ile	Pro	Cys	Leu	Cys	Ile	Phe	Val	Leu	Leu
															190
Ala	Ile	Ile	Pro	Leu	Leu	Lys	Asn	Lys	His	Met	Lys	Ile	Ile	Pro	Lys
															205
Glu	Pro	Ser	Lys	Arg	Ala	Gln	Phe	Thr	Asp	Phe	Ile	Trp	Phe	Phe	Ala
															210
															220
Arg	Arg	Asn	Ile	Trp	Lys	Gln	Ile	Gly	Phe	Leu	Leu	Tyr	Tyr	Ala	
															240
															225
Ser	Ile	Ile	Gly	Ile	Leu	Ser	Val	Leu	Arg	Ser	Tyr	Leu	Val	Asp	Leu
															255
Gly	Tyr	Ser	Met	Lys	Glu	Ile	Gly	Ile	Met	Ile	Gly	Ile	Gly	Gly	Thr
															260
															270
Gly	Ala	Ala	Phe	Ala	Ser	Ser	Phe	Leu	Ala	Gly	Leu	Leu	Val	Arg	Lys
															275
Ile	Gly	Arg	Tyr	His	Ser	Arg	Ile	Leu	Phe	Ala	Ile	Phe	Ile	Leu	Leu
															290
															300
Thr	Thr	Leu	Tyr	Phe	Met	Cys	Ile	Ser	Trp	Thr	Val	Pro	Ser	Phe	Ser
															320
															305
Met	Leu	Cys	Leu	Gly	Ile	Val	Leu	Leu	Trp	Ser	Ala	Tyr	Gly	Met	Ala
															335
Thr	Ile	Val	Val	Tyr	Thr	Thr	Ser	Met	Asp	Cys	Val	Arg	Lys	Gly	Cys
															340
															350
Glu	Gly	Thr	Asp	Phe	Thr	Ile	Gln	Thr	Val	Leu	Thr	His	Leu	Ser	Gly
															355
															360
Leu	Leu	Ile	Ala	Phe	Leu	Ser	Gly	Val	Val	Ala	Gly	Leu	Thr	Gly	Tyr
															370
His	Gly	Leu	Phe	Ile	Phe	Glu	Val	Ile	Leu	Ala	Ser	Ile	Ser	Leu	Ile
															385
															390
Tyr	Ile	Phe	Tyr	Phe	Phe	Arg	Lys	Glu	Ser	Gln	Pro	Ile	His	Ser	

405

410

415

&lt;210&gt; 6676

&lt;211&gt; 283

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6676

Lys	His	Ile	Met	Lys	Ser	Leu	Glu	Thr	Met	Ala	Arg	Tyr	Lys	Lys	Glu
1				5					10				15		
Leu	Thr	Glu	Cys	Ala	Arg	Asn	Leu	Lys	Leu	Pro	Phe	Leu	Ala	Glu	His
			20					25				30			
Leu	Asp	Glu	Ile	Leu	His	Glu	Ala	Gln	Glu	Lys	Gln	Gln	Thr	Tyr	Ser
	35				40				45						
Glu	Phe	Leu	Ser	Thr	Cys	Leu	Met	Arg	Glu	Leu	Arg	Asp	Lys	Glu	Arg
	50				55			60							
Arg	Ser	Tyr	Leu	Thr	Arg	Leu	Lys	Phe	Ala	Gly	Leu	Pro	Ala	Arg	Tyr
	65				70			75				80			
Asp	Leu	Asp	Leu	Tyr	Asp	Phe	Ser	Arg	Thr	Glu	Gly	Ile	Asp	Gln	Arg
		85				90			95						
Gln	Met	Arg	Glu	Leu	Arg	Glu	Leu	Val	Trp	Ile	Arg	Arg	Thr	Tyr	Asn
	100				105				110						
Leu	Leu	Leu	Val	Gly	Asp	Ser	Gly	Thr	Gly	Lys	Thr	Phe	Ile	Ala	Ser
	115				120				125						
Gly	Leu	Ile	His	Glu	Ala	Val	Lys	Ala	Gly	Tyr	Lys	Ala	Tyr	Leu	Leu
	130				135				140						
Thr	Leu	Glu	Glu	Leu	Leu	Val	Cys	Leu	Lys	Ala	Lys	Glu	Ile	Ser	Arg
	145				150				155				160		
Pro	Ala	Met	Lys	Thr	Tyr	Lys	Arg	Ile	Met	Lys	Ala	Gln	Leu	Leu	Ala
		165				170			175						
Ile	Asp	Asp	Val	Thr	Leu	Phe	Pro	Leu	Lys	Gly	Glu	Asp	Val	Leu	Leu
		180				185			190						
Leu	Phe	Lys	Leu	Val	Asn	Cys	Val	Gln	Gly	Lys	Thr	Ser	Leu	Ile	Ile
		195				200			205						
Ala	Ala	Ser	Arg	Asp	Leu	Thr	Gly	Trp	Leu	Glu	Met	Ala	Gly	Asp	Glu
	210				215				220						
Val	Cys	Ala	Ala	Ala	Leu	Leu	Asp	Arg	Leu	Leu	Tyr	Cys	Cys	Glu	Ile
	225				230				235				240		
Ile	Arg	Leu	Leu	Gly	Lys	Ser	Tyr	Arg	Met	Glu	Asn	Arg	Lys	Thr	Ile
		245				250			255						
Phe	Ser	Asn	Gln	Gln	Ile	Gly	Thr	Ala	Pro	Gln	Lys	Gly	Leu	Met	Lys
		260				265			270						
Val	Lys	Lys	Arg	Thr	Lys	Glu	Ser	Gly	Tyr	Cys					
		275			280										

&lt;210&gt; 6677

&lt;211&gt; 594

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6677

Leu	Thr	Ala	Met	Lys	Lys	Glu	Ile	Lys	Phe	Ser	Leu	Val	Tyr	Arg	Asp
1				5				10			15				
Met	Trp	Gln	Ser	Ser	Gly	Lys	Tyr	Gln	Pro	Arg	Val	Asp	Gln	Leu	Val
				20				25			30				
Arg	Ile	Ala	Pro	Leu	Ile	Ile	Glu	Met	Gly	Cys	Phe	Ala	Arg	Val	Glu
		35				40			45						
Thr	Asn	Gly	Gly	Ala	Phe	Glu	Gln	Val	Asn	Leu	Leu	Tyr	Gly	Glu	Asn
		50				55			60						

Pro Asn Lys Ala Val Arg Ala Phe Thr Lys Pro Phe Asn Asp Ala Gly  
 65 70 75 80  
 Ile Gln Thr His Met Leu Asp Arg Gly Leu Asn Gly Leu Arg Met Tyr  
     85      90      95  
 Pro Val Pro Ala Asp Val Arg Arg Leu Met Tyr Lys Val Lys His Ala  
     100      105      110  
 Gln Gly Val Asp Ile Thr Arg Ile Phe Cys Gly Leu Asn Glu Val Arg  
     115      120      125  
 Asn Ile Ile Pro Ser Ile His Tyr Ala Leu Glu Gly Met Ile Pro  
     130      135      140  
 Gln Ala Thr Leu Cys Ile Thr Phe Ser Pro Val His Thr Val Glu Tyr  
     145      150      155      160  
 Tyr Thr Ala Ile Ala Asp Lys Leu Ile Glu Ala Gly Ala Pro Glu Ile  
     165      170      175  
 Cys Leu Lys Asp Met Ala Gly Val Gly Arg Pro Ala Met Leu Gly Gln  
     180      185      190  
 Leu Thr Lys Ala Ile Lys Glu Arg His Pro Glu Val Leu Ile Gln Tyr  
     195      200      205  
 His Gly His Ser Gly Pro Gly Leu Ser Met Ala Ser Ile Leu Glu Val  
     210      215      220  
 Cys Glu Asn Gly Ala Asp Ile Ile Asp Val Ala Met Glu Pro Met Ser  
     225      230      235      240  
 Trp Gly Lys Val His Pro Asp Val Ile Ser Val Gln Ala Met Leu Lys  
     245      250      255  
 Asp Ala Gly Phe Arg Val Pro Glu Ile Asn Met Lys Ala Tyr Met Lys  
     260      265      270  
 Ala Arg Ala Met Thr Gln Glu Phe Ile Asp Asp Phe Leu Gly Tyr Phe  
     275      280      285  
 Met Asp Pro Thr Asn Lys His Met Ser Ser Leu Leu Leu Lys Cys Gly  
     290      295      300  
 Leu Pro Gly Gly Met Met Gly Ser Met Met Ala Asp Leu Lys Gly Val  
     305      310      315      320  
 His Ala Gly Ile Asn Met Ile Leu Lys Ser Asn Asn Gln Pro Glu Leu  
     325      330      335  
 Ser Ile Asp Asp Leu Leu Val Met Leu Phe Asp Glu Val Glu Tyr Val  
     340      345      350  
 Trp Pro Lys Leu Gly Tyr Pro Pro Leu Val Thr Pro Phe Ser Gln Tyr  
     355      360      365  
 Val Lys Asn Val Ala Leu Met Asn Val Met Ala Arg Val Lys Gly Glu  
     370      375      380  
 Glu Arg Trp Ser Met Ile Asp Asn Asn Thr Trp Gly Met Ile Leu Gly  
     385      390      395      400  
 Lys Ser Gly Arg Leu Pro Gly Pro Leu Asp Pro Glu Ile Val Ala Leu  
     405      410      415  
 Ala Lys Glu Lys Gly Tyr Glu Phe Thr Asp Glu Asp Pro Gln Lys Asn  
     420      425      430  
 Tyr Pro Asp Gln Leu Asp Glu Tyr Arg Lys Glu Met Gln Glu Asn Gly  
     435      440      445  
 Trp Glu Ser Gly Pro Asp Asp Glu Glu Leu Phe Glu Leu Ala Met His  
     450      455      460  
 Asp Arg Gln Tyr Arg Asp Tyr Lys Ser Gly Val Ala Lys Lys Arg Phe  
     465      470      475      480  
 Glu Glu Asp Leu Gln Arg Ala Lys Asp Ala Ala Leu Ala Lys Gln Gly  
     485      490      495  
 Phe Ser Glu Glu Asp Val Lys Arg Met Lys Arg Ala Lys Ala Glu Pro  
     500      505      510  
 Ile Thr Ala Met Glu Lys Gly Arg Ile Ile Trp Glu Ile Asp Val Glu  
     515      520      525  
 Ser Pro Ser Met Pro Pro Glu Val Gly His Lys Tyr Glu Pro Asp Asp

530	535	540
Val Phe Cys Tyr Ile Ala Thr Pro Trp Asn Thr Tyr Asp Arg Val Leu		
545	550	555
Ala Asn Phe Ser Gly Arg Ile Ile Glu Val Cys Ala Lys Gln Gly Ala		560
565	570	575
Leu Val Asn Lys Gly Asp Ala Leu Ala Tyr Val Glu Arg Cys Glu Glu		
580	585	590

Pro Ala

&lt;210&gt; 6678

&lt;211&gt; 152

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6678

Met Ser Gln Ile Gly Tyr Lys Ser Ser Glu Thr Ser Val Val Tyr Ile		
1	5	10
Ile Thr Lys Thr Met Pro Tyr Phe Asn Gly Gln Leu His Phe Phe Thr		15
20	25	30
Phe Thr Leu His Ile Gln Tyr Gln Ser Leu Lys Leu Leu Asn Met Lys		
35	40	45
Leu Asp Glu Asn Ile Leu Lys Thr Cys Gln Gly Leu Val Met Asn Cys		
50	55	60
Asn Cys Lys Val Leu Ile Leu Asn Val Leu Gly Glu His Arg Val Phe		
65	70	75
Leu Val Asn Asp Val His Leu Lys Thr Arg Glu Cys Arg Tyr Asn Glu		80
85	90	95
Val Arg Asp Ala Gln Asp Ile Thr Thr Leu Val Leu Asn Ile Gly His		
100	105	110
Asn Phe Ala Asn Gly Met Thr Glu Gln Thr Leu Leu Glu Arg Thr Gln		
115	120	125
Ser Ile His Lys Glu Asp Phe Lys Phe Gly Thr Asp Asn Tyr Leu Trp		
130	135	140
Ile Thr Lys Val Asp Leu Asn Arg		
145	150	

&lt;210&gt; 6679

&lt;211&gt; 772

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6679

Tyr Asn Lys Met Asn Asn Ala Lys Leu Leu His Leu Met Val Tyr Ile		
1	5	10
Leu Thr Ile Ile Leu Gly Gln Ser Cys Thr Glu Val Asp Ile Thr Met		15
20	25	30
Pro Lys Gly Pro Lys Gly Asp Arg Gly Met Ser Ala Tyr Glu Phe Trp		
35	40	45
Lys Glu Asn Val Glu Asn Gly Val Ile Ser Trp Pro Lys Lys Glu Thr		
50	55	60
Glu Ile Thr Asp Phe Phe Lys Tyr Leu Lys Gly Lys Asp Gly Leu Asp		
65	70	75
Gly Lys Ser Ala Phe Glu Leu Trp Lys Glu Glu Val Ala Thr Gly Ala		80
85	90	95
Leu Asp Asn Pro His Arg Pro Gly Ser Met Trp Pro Val Ser Gln Asn		
100	105	110
Asn Leu Arg Asp Phe Trp Tyr Tyr Leu Thr Gly Ala Ser Gly Glu Asn		
115	120	125

Gly Gln Thr Pro His Ile Gly Asn Asn Met Asn Trp Trp Ile Gly Asn  
 130 135 140  
 Lys Asp Thr Gly Ile Arg Ala Gln Gly Arg Asp Gly Gln Asn Gly Glu  
 145 150 155 160  
 Asp Ala Val Pro Pro Val Val Thr Ile Gly Asp Asn Gly Asn Trp Leu  
 165 170 175  
 Ile Asp Gly Val Asp Thr Gly Lys Pro Ser Arg Gly Glu Gly Val  
 180 185 190  
 Ala Gly Thr Thr Pro Thr Val Thr Ile Gly Glu Asn Gly Asn Trp Val  
 195 200 205  
 Ile Asn Gly Lys Asp Thr Gly Lys Ala Ala Ile Gly Lys Asp Gly Arg  
 210 215 220  
 Ser Pro Glu Val Ile Ile Gly Thr Asn Gly Asn Trp Tyr Ile Asn Gly  
 225 230 235 240  
 Lys Asp Thr Gly Ile Arg Ala Tyr Gly Lys Asp Gly Ala Asn Gly Lys  
 245 250 255  
 Asp Gly Ile Asn Gly Lys Asp Gly Ala Asn Gly Lys Asp Gly Ala Asn  
 260 265 270  
 Gly Lys Asp Gly Ile Asn Gly Lys Asp Gly Ala Ala Gly Lys Asp Gly  
 275 280 285  
 Ala Asn Gly Lys Asp Gly Ala Asn Gly Lys Ser Ala Tyr Glu Leu Trp  
 290 295 300  
 Val Glu Ser Val Glu Ala Gly Cys Asn Asn Thr Gly Pro Lys Val Lys  
 305 310 315 320  
 Asn Pro His Asn Pro Ser Leu Asp Trp Asp Cys Gly Lys Thr Thr Leu  
 325 330 335  
 Ser Asp Phe Trp Glu Phe Leu Arg Gly Ala Asp Gly Lys Asp Gly Ala  
 340 345 350  
 Asp Gly Lys Asp Gly Lys Pro Gly Val Pro Gly Lys Pro Gly Ala Glu  
 355 360 365  
 Val Thr Ile Ile Lys Gly Val Pro Asn Val Ile Ala Leu Tyr Ser Gln  
 370 375 380  
 Gln Glu Phe Gly Glu Tyr Val Arg Thr Thr Asp Gly Gly Val Ala Tyr  
 385 390 395 400  
 Arg Val Tyr Asp Glu Ser Gly Asn Lys Ala Pro Lys Ala Val Val Lys  
 405 410 415  
 Gly Ile Pro Gly Leu Asp Pro Ala Lys Thr Tyr Thr Ala Asn Glu Glu  
 420 425 430  
 Gly Glu Phe Ile Ile Pro Lys Glu Asp Leu Pro Gln Ile Asp Asp Ile  
 435 440 445  
 Asp Ala Arg Trp Gly Lys Val Lys Glu Val Thr Ile Asn Lys Val Thr  
 450 455 460  
 Lys Glu Ser Ala Glu Asn Thr Tyr Val Pro Asn Arg Met Gln Ile Arg  
 465 470 475 480  
 Met Ile Tyr Ile Ala Thr Ser Pro Tyr Leu Asp Tyr Glu His Asn Leu  
 485 490 495  
 Gln Phe Arg Val Glu Arg Lys Thr Asp Pro Ser Ala Glu Trp Lys Thr  
 500 505 510  
 Leu Pro Ser Tyr Leu Pro Asn Val Asn Ala Val Phe Thr Ala Tyr Gln  
 515 520 525  
 Val Thr Asn Pro Glu Asp Pro Thr Ser Leu Asp Lys Thr Lys Lys Ile  
 530 535 540  
 Glu Ser Thr Thr Pro Asn Met Ser Ser Thr Ser Met Ser Ile Asn Pro  
 545 550 555 560  
 Asn Arg Tyr Val Lys Glu Asn Pro Ala Gly Ile Lys Asn Gly Ile Thr  
 565 570 575  
 Asp Phe Trp Asp Gly Lys Asp Asn Tyr Phe Ser Ile Val Lys Asp Thr  
 580 585 590  
 Pro Tyr Tyr Gly Glu Thr Ile Tyr Trp Asn Gly Val Cys Lys Met Ala

595	600	605
Pro Tyr Gln Ile Pro Pro Thr	Leu Lys Thr Leu Ala	Leu Thr Lys Ala
610	615	620
Ser Ala Glu Ser Gly Asp Asp Val	Phe Leu Asn Lys Ala	Gln Gly Glu
625	630	635
Phe Asp Phe Ser Thr Ile Asp Phe Asn Ile	Ile Cys Lys His	Glu Leu
645	650	655
Val Lys Thr Val Lys Pro Asn Gly Ile	Asp Tyr Ile Glu	Pro Glu Tyr
660	665	670
Tyr Ala Pro Glu Glu Ala Lys Glu	Leu Leu Leu Cys	Tyr Val Lys Phe
675	680	685
Thr Tyr Thr Ser Pro Leu Gly Val Gln	Thr Ala Thr Ser	Glu Leu Asn
690	695	700
Met Ser Ser Tyr Lys Lys Pro Glu Tyr	Ala Ala Leu Ser	Pro Tyr Leu
705	710	715
Gly Ala Thr Ile Tyr Ser Val Gly Ala	Ser Ser Thr Phe	Ile Tyr Ser
725	730	735
Ser Asn Val Ser Leu Gly Val Leu Lys	Lys Lys Ala Asp	Asn Gly Thr
740	745	750
Tyr Tyr Val Glu Asn Thr Tyr Lys	Asp Met Pro Glu	Ile Ser Val Thr
755	760	765
Tyr Lys Glu Lys		
770		

&lt;210&gt; 6680

&lt;211&gt; 182

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6680

Thr Ser Pro Ile Cys Phe Thr Ala Val	Thr Trp Ser His	Thr Val Ala	
1	5	10	15
Glu Arg Ser Thr Glu Thr Asp Val Ile	Pro Val Thr Met	His Pro Met	
20	25	30	
Val Phe Thr Tyr Leu Val Arg Tyr Glu	Phe Ser His	Gly Val Glu Tyr	
35	40	45	
Val Ser Leu Ala Arg Gly Ala Leu Ala	Gly Met Ala Gln	Ala Val Trp	
50	55	60	
Leu Asn Ser Gly His Thr Ser Asp Glu	Ala Ala Thr Val	Leu Tyr Asp	
65	70	75	80
Cys Thr Val Glu Asp Phe Gly Thr Gln	Ala Leu Val Arg	Ser Phe Gly	
85	90	95	
Ile Pro Asp Phe Pro Asn Glu His	Tyr Gly Thr Arg	Ala Glu Arg Lys	
100	105	110	
Tyr Gly Leu Asn Leu Glu Val Arg	Leu Lys Asn Gly	Lys Ile Lys Ser	
115	120	125	
Phe Asp Phe Asp Val Thr Asp Gln Val	Val Ala Gln	Pro Gln Gly Gly	
130	135	140	
Val Ile Val Val Lys Gly Ile Glu	Ile Ser Asp Glu	Glu Gly Thr Glu	
145	150	155	160
Gly Gly Ser Gly Phe Asp Val Asp Val	Asp Asp Trp Gly	Asp Tyr Glu	
165	170	175	
Asp Ile Glu Leu Pro Leu			
180			

&lt;210&gt; 6681

&lt;211&gt; 86

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6681

Arg	Tyr	Glu	Ile	Phe	Ile	Ile	Val	Ser	Ile	Leu	Gln	Lys	Ala	Met	Thr
1									5					15	
Ala	Tyr	Asp	Leu	Lys	Asn	Ile	Ala	Ser	Ala	Gly	Gly	Asn	Ile	Val	Val
						20				25				30	
Asn	Ala	Glu	Asp	Phe	Ser	Ala	Tyr	Asp	Leu	Lys	Asn	Ile	Ala	Glu	Asn
						35			40			45			
Gly	Val	Ala	Thr	Lys	Ala	Lys	Leu	Thr	Ile	Lys	Asn	Ala	Gly	Gly	Leu
						50			55			60			
Ser	Gly	Tyr	Asp	Cys	Lys	Asn	Ile	Ala	Ser	Ala	Asn	Pro	Gly	Asn	Val
						65			70			75		80	
Thr	Phe	Asp	Phe	Ser	Glu										
						85									

&lt;210&gt; 6682

<211> 234  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6682

Thr	Leu	Trp	Ile	Ile	Lys	Gly	Ser	Ala	Leu	Ile	Leu	Glu	Ser	Pro	
1									5			10		15	
Ile	Gln	Gln	Lys	Val	Gln	Thr	Arg	His	Ser	Gly	Gln	Pro	Ile	Ser	Ser
						20			25			30			
Gly	Leu	Phe	Ile	Cys	Val	Phe	Val	Gln	Ala	Phe	Gly	Asp	Ala	Phe	Glu
						35			40			45			
Phe	Thr	Gln	Val	Ala	Val	His	Phe	Leu	Cys	Asn	Asn	Val	Ile	Ser	His
						50			55			60			
Trp	Leu	Ser	Glu	Lys	Asn	Ser	Lys	Asn	Phe	Ala	Ile	Met	Lys	Lys	Tyr
						65			70			75		80	
Phe	Val	Leu	Ser	Val	Phe	Ile	Met	Leu	Ile	Gly	Ala	Phe	Thr	Asn	Val
						85			90			95			
Gln	Gly	Gln	Asn	Ser	Ala	Thr	Pro	Asp	Lys	Gly	Val	Leu	Val	His	Gly
						100			105			110			
Asn	Val	Arg	Leu	Cys	Asn	Tyr	Glu	Arg	Gly	Cys	Leu	Ile	Thr	Asp	Asn
						115			120			125			
Asp	Met	Lys	His	Trp	Thr	Gln	Lys	Leu	Glu	Ile	Ser	Tyr	Asp	Gly	Ser
						130			135			140			
Asp	Lys	Thr	Tyr	Gly	Ile	Tyr	Ile	Asn	Val	Arg	Gly	Asp	Ile	Ile	Asn
						145			150			155		160	
Leu	Gly	Val	Lys	Tyr	Lys	Ser	Ser	Gly	Thr	Glu	Ser	Tyr	Thr	Tyr	Glu
						165			170			175			
Gly	Thr	Asp	Arg	Val	Thr	Gly	Arg	Lys	Val	Val	Val	Val	Thr	Lys	Gln
						180			185			190			
Lys	Leu	Ser	Trp	Tyr	Leu	Asn	Asn	Gly	Val	Asp	Ser	His	Thr	Glu	
						195			200			205			
Val	Glu	Ser	Pro	Lys	Gly	Ile	Ile	Val	Thr	Val	Pro	Ala	Thr	Tyr	Thr
						210			215			220			
Val	Phe	Ser	Val	Val	Pro	Ile	Lys	Asn	Lys						
						225			230						

&lt;210&gt; 6683

&lt;211&gt; 282

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6683

Asn Asn His Phe Ile Ile Thr Tyr Ile Ile Met Asn Lys Val Phe Leu

1	5	10	15												
Phe	Leu	Leu	Phe	Ser	Phe	Leu	Thr	Ile	Thr	Ser	Met	Ala	Gln	Glu	Lys
								20	25						30
Ile	Lys	Gln	Thr	Ala	Gly	Arg	Asp	Gln	Leu	Gly	Asp	Phe	Ala	Pro	Lys
								35	40						45
Phe	Ala	Glu	Leu	Asn	Asp	Asp	Val	Leu	Phe	Gly	Glu	Ile	Trp	Ser	Arg
								50	55						60
Thr	Asp	Lys	Leu	Ser	Leu	Arg	Asp	Arg	Ser	Leu	Val	Thr	Ile	Thr	Ser
								65	70						80
Leu	Ile	Ser	Gln	Gly	Ile	Thr	Asp	Asn	Ser	Leu	Thr	Phe	His	Leu	Gln
								85	90						95
Ser	Ala	Lys	Asn	Asn	Gly	Ile	Ser	Arg	Thr	Glu	Ile	Ser	Glu	Ile	Ile
								100	105						110
Thr	His	Ile	Gly	Phe	Tyr	Ala	Gly	Trp	Pro	Lys	Ala	Trp	Ala	Ala	Phe
								115	120						125
Arg	Leu	Ala	Lys	Glu	Val	Trp	Ala	Lys	Asp	Thr	Thr	Gly	Val	Asp	Ala
								130	135						140
Lys	Ala	Ala	Phe	Gln	Arg	Glu	Met	Ile	Phe	Pro	Ile	Gly	Glu	Pro	Asn
								145	150						160
Thr	Ala	Tyr	Ala	Gln	Tyr	Phe	Thr	Gly	Asn	Ser	Tyr	Leu	Ala	Pro	Ile
								165	170						175
Ser	His	Glu	Gln	Val	Asn	Ile	Ser	Asn	Val	Thr	Phe	Glu	Pro	Gly	Cys
								180	185						190
Arg	Asn	Asn	Trp	His	Val	His	His	Ala	Lys	Lys	Gly	Gly	Gly	Gln	Met
								195	200						205
Leu	Ile	Gly	Ile	Ala	Gly	Arg	Gly	Trp	Tyr	Gln	Glu	Glu	Gly	Lys	Pro
								210	215						220
Ala	Val	Glu	Ile	Leu	Pro	Gly	Thr	Val	Ile	His	Ile	Pro	Ala	Asn	Val
								225	230						240
Lys	His	Trp	His	Gly	Ala	Thr	Ala	Glu	Ser	Trp	Phe	Ala	His	Leu	Ala
								245	250						255
Phe	Glu	Ile	Pro	Gly	Glu	Asp	Ser	Ser	Asn	Glu	Trp	Leu	Glu	Pro	Val
								260	265						270
Thr	Asn	Lys	Glu	Tyr	Asn	Arg	Leu	Pro	Gln						
								275	280						

&lt;210&gt; 6684

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6684

Ile	Asn	Thr	Val	Pro	Ser	Ser	Leu	Leu	Thr	Leu	Thr	Ala	Arg	Lys	Asn
1							5		10						15
Gly	Gln	His	Asp	Thr	Glu	Cys	Lys	Lys	Thr	Cys	Arg	Thr	Ala	Glu	Arg
							20		25						30
Phe	Leu	Glu	His	Gly	Thr	Val	Tyr	Glu	Pro	Gly	Ile	Gly	His	Thr	Gly
							35		40						45
Ala	Asp	Glu	Ser	Arg	Gln	Lys	Lys	Asn	Glu	Leu	Phe	His			
							50		55						60

&lt;210&gt; 6685

&lt;211&gt; 74

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6685

Tyr	Leu	Tyr	Val	Ala	Pro	Asp	His	Ile	Lys	Leu	Asn	Leu	Gln	Phe	Lys
1								5		10					15

Asn Gly Phe Tyr His Leu Lys Lys Gln Asp Asp Gly Trp Leu Thr Thr  
       20                 25                 30  
 Glu Ile Asn Leu Val Pro Phe Leu Ser Val Lys Phe Leu Thr Ala Leu  
       35                 40                 45  
 Leu Phe Ile Gln Lys Leu Phe Tyr Phe Gln Glu Leu Ile Leu Ser Asn  
       50                 55                 60  
 Gly Cys Lys Ala Leu Lys Thr Gln Ser Asn  
       65                 70

&lt;210&gt; 6686

&lt;211&gt; 636

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6686

Thr Phe Asn Val Ile Phe Ser Met Lys Gln Met Met Lys Lys Tyr Leu  
       1              5                 10                 15  
 Tyr Met Ala Ala Val Ala Val Val Gly Thr Gly Phe Leu Met Ser Ser  
       20              25                 30  
 Cys Lys Asp Glu Phe Ala Gly Gln Asn Thr Asn Pro Ser Thr Val Ser  
       35              40                 45  
 Lys Pro Asn Val Arg Tyr Leu Phe Thr Gln Cys Ala Met Ser Phe Gln  
       50              55                 60  
 Pro Ala Asp Tyr Leu Gln Trp Phe Ala Gly Phe Asp Ala Met Ser Thr  
       65              70                 75                 80  
 Trp Val Gln Ala Thr Ala Ser Gly Gly Asn Ser Ser Lys Leu Asn  
       85              90                 95  
 Met Val Thr Gln Thr Gly Cys Gly Tyr Gln Val Asn Glu Val Leu Arg  
       100            105                 110  
 Tyr Thr Asn Glu Ile Lys His Gln Ile Ser Leu Met Ser Asp Asp Glu  
       115            120                 125  
 Lys Ala Lys Tyr Glu Tyr Ile Ala Tyr Leu Cys Asn Pro Met Leu Val  
       130            135                 140  
 Tyr Leu Gly Leu Glu Asp Ser Asp Met Tyr Gly Ser Arg Gln Tyr Ser  
       145            150                 155                 160  
 Glu Ala Glu Met Ala Arg Tyr Gly Thr Leu Thr Pro Lys Tyr Asp  
       165            170                 175  
 Thr Gln Glu Glu Leu Phe Glu Leu Trp Leu Lys Gln Leu Asp Glu Thr  
       180            185                 190  
 Ile Asn Tyr Leu Arg Glu Asn Asn Pro Gln Asp Val Leu Gly Ala Gln  
       195            200                 205  
 Asp Phe Ile Tyr Arg Gly Lys Leu Asp Lys Trp Ala Lys Leu Ala Asn  
       210            215                 220  
 Ser Leu Lys Leu Arg Ile Ala Ala Arg Leu Ile Asn Lys Asp Lys Ala  
       225            230                 235                 240  
 Arg Ala Ile Ala Ile Val Asn Glu Ala Ala Gln Asn Pro Ala Gly Leu  
       245            250                 255  
 Ile Leu Thr Leu Asp Asp Phe Val Phe Asn Lys Gly Lys Arg Asp  
       260            265                 270  
 Asn Asn Trp Asn Asn Asp Ile Ser Val Gly Ala Gly Thr Lys Gln Leu  
       275            280                 285  
 Ile Asp Phe Met Val Ser Asn Arg Asp Pro Arg Leu Phe Tyr Phe Phe  
       290            295                 300  
 Gln Lys Asn Asp Tyr Asn Ser Asn Val Val Gln Gly Phe Phe Asp Gln  
       305            310                 315                 320  
 Lys Arg Ala Leu Pro Ser Tyr Val Glu Ala Asn Val Asn Tyr Thr Val  
       325            330                 335  
 Asp Ala Asp Gly Lys Lys His Phe Glu Ser Trp Lys Ala Pro Gly Glu  
       340            345                 350

Pro Trp Val Arg Tyr Tyr Gly Val Pro Cys Gln Val Asp Ile Asn Lys  
                   355                  360                  365  
 Lys Glu Glu Tyr Lys Asp Tyr Phe Asp Pro Asn Asn Glu Leu Phe Tyr  
                   370                  375                  380  
 Leu Leu Ser Lys Asp Gly Ala Lys Lys Thr Tyr Thr Pro Ile Ala Tyr  
                   385                  390                  395                  400  
 Arg Asn Thr Glu Asn Ile Lys Gly Leu Leu Ile Tyr Thr Phe Pro Asp  
                   405                  410                  415  
 Val Pro Asp Val Ala Pro Val Gln Asp Lys Glu Glu Tyr Gly Trp Tyr  
                   420                  425                  430  
 Gly Leu Tyr Phe Ser Ala Gly Glu Thr Asn Leu Leu Ala Glu Phe  
                   435                  440                  445  
 Lys Leu Leu Gly Ala Asn Leu Pro Met Thr Ala Gln Gln Tyr Leu Ser  
                   450                  455                  460  
 Ala Gly Val Glu Met Ser Val Arg Gly Tyr Asp Phe Val Ser Ala Lys  
                   465                  470                  475                  480  
 Asn His Ile Pro Tyr Tyr Asp Lys Thr Tyr Thr Gly Asp Val His Asp  
                   485                  490                  495  
 Lys Thr Ile Ser Leu Lys Glu Gly Met Ile Asp Glu Met Leu Ser His  
                   500                  505                  510  
 Asp Ala Tyr His Leu Thr Gly Asp Leu Ser Lys Asp Leu Glu Lys Val  
                   515                  520                  525  
 Tyr Ile Gln Gln Tyr Ile His Tyr Leu Met Leu Pro Met Asp Met Phe  
                   530                  535                  540  
 Val Thr Ala Arg Arg Ser Gly Val Pro Met Lys Asn Ser Thr Leu Leu  
                   545                  550                  555                  560  
 Pro Tyr Gln Asp Phe Asp Pro Leu Leu Gly Asp Gln Tyr Val Ile Pro  
                   565                  570                  575  
 Arg Arg Phe Pro Val Ser Lys Pro Leu Asp Ser Asp Leu Leu Arg Asp  
                   580                  585                  590  
 Ile Thr Ile Ala Ala Tyr Gln Ala Gln Gly Tyr Thr Tyr Glu Gly Glu  
                   595                  600                  605  
 Met Ser Asn Ser Pro Val Thr Leu Ser Lys Glu Arg Val Trp Tyr Asp  
                   610                  615                  620  
 Lys Glu Ala Pro Ala Phe Gly Thr Gly Pro Gln Gln  
                   625                  630                  635

<210> 6687  
 <211> 124  
 <212> PRT  
 <213> B.fragilis

<400> 6687  
 Glu Val Ala Val Tyr Asp Asn Leu Pro Val Tyr Lys Ala Ala Tyr Asp  
     1                  5                  10                  15  
 Leu Leu Arg Ser Val Tyr Glu Lys Thr Gly Lys Ile Pro Arg Asp Val  
     20                  25                  30  
 Lys Tyr Thr Leu Val Glu Val Leu Lys Lys Asp Leu Thr Glu Ile Met  
     35                  40                  45  
 Val Met Ile Tyr Arg Ala Asn Ala Thr Thr Gly Lys Leu Pro Tyr Ile  
     50                  55                  60  
 Glu Arg Ala Arg Asp Leu Val Val Gly Val Lys Val Arg Leu Arg Leu  
     65                  70                  75                  80  
 Leu Gln Asp Met Arg His Ile Ser Val Lys Gln Tyr Ala Ala Phe Ala  
     85                  90                  95  
 Gln Gln Val Glu Leu Leu Ser Lys Gln Leu Ser Ala Trp His Asp Tyr  
     100                  105                  110  
 Ala Arg Arg Gln Asp Ala Lys Ser Gln Glu Lys Ile  
     115                  120

<210> 6688  
<211> 584  
<212> PRT  
<213> B.fragilis

<220>  
<221> UNSURE  
<222> (1),(584)  
<223> Identity of amino acid sequences at the above locations are unknown.

<400> 6688  
Xaa Thr Leu Phe Ile Ile Leu Phe Ser Leu Gly Tyr Ser Gly Ile Tyr  
1               5               10               15  
Ser Gln Glu Gln Gln Val Lys Lys Asp Ser Val Tyr Gln Leu Gln Glu  
20              25              30  
Ile Val Val Ser Ser Gln Gln Ile Leu Gly Ser Lys Phe Lys Ala Arg  
35              40              45  
Asn Arg Thr Gly Ser Ala Tyr Tyr Ile Ser Pro Glu Glu Ile Arg Arg  
50              55              60  
Leu Gly Tyr Thr Asp Ile Asn Arg Met Leu Lys Ala Val Pro Gly Val  
65              70              75              80  
Asn Met Tyr Glu Glu Asp Gly Phe Gly Leu Arg Pro Asn Ile Ser Leu  
85              90              95  
Arg Gly Thr Lys Ala Glu Arg Ser Glu Arg Ile Ser Ile Met Glu Asp  
100             105             110  
Gly Val Leu Ala Ala Pro Ala Pro Tyr Ser Ala Pro Ala Ala Tyr Tyr  
115             120             125  
Phe Pro Asn Val Ala Arg Met Glu Ala Ile Glu Val Leu Lys Gly Ser  
130             135             140  
Ser Gln Val Gln Tyr Gly Pro Phe Thr Thr Gly Gly Ala Ile Asn Leu  
145             150             155             160  
Val Ser Thr Pro Ile Pro Asn Ser Phe Ser Gly Lys Ala Asn Ile Ser  
165             170             175  
Tyr Gly Ser Lys Asn Thr Phe Lys Ser His Thr Ser Val Gly Ser Ser  
180             185             190  
Trp Lys His Phe Gly Tyr Met Val Glu Tyr Leu Arg Tyr Gln Ser Asp  
195             200             205  
Gly Phe Lys Lys Tyr Glu Asp His Ala Ala Lys Gly Phe Lys Arg Asn  
210             215             220  
Asp Ile Ile Ala Lys Ile Arg Val Lys Thr Asp His Val Lys Gly Val  
225             230             235             240  
Asn His Ala Leu Glu Leu Lys Phe Gly Tyr Ala Asp Glu Asn Ser Asp  
245             250             255  
Glu Thr Tyr Val Gly Leu Ser Ala Asp Asp Phe Lys Lys Thr Pro Phe  
260             265             270  
Leu Arg Tyr Ala Gly Ser Gln Met Asp Lys Leu Lys Thr Asp His Arg  
275             280             285  
Gln Trp Val Ala Thr Tyr Leu Leu Thr Phe Ser Asn Lys Leu Lys Ile  
290             295             300  
Thr Thr Asn Ala Tyr Tyr Asn Tyr Phe His Arg Asn Trp Tyr Lys Leu  
305             310             315             320  
Asn Asp Val Arg Ala Gly Ile Thr Ser Lys Glu Lys Arg Ser Ile Ala  
325             330             335  
Asp Val Leu Val Asp Pro Glu Thr Asn Ile Arg Tyr Phe Asp Ile Leu  
340             345             350  
Thr Gly Lys Thr Asp Arg Glu Gly Glu Ala Leu Leu Val Arg Ala Asn  
355             360             365  
Asn Arg Thr Tyr Arg Ser Arg Gly Ile Gln Thr Arg Ala Glu Tyr Arg

370	375	380
Phe Asn Leu Asn Glu	Phe Phe Asp Leu Glu	Phe Gly Leu Arg Tyr
385	390	395 400
His Ala Asp Glu Glu Asp Arg	Phe Gln Trp Asp Asp Ser	Tyr Ser Met
405	410	415
Lys Asn Lys Lys Met Val Leu Phe Met	Glu Gly Ile His Gly Thr Asn	
420	425	430
Ala Asn Arg Val Thr Ser Ala Asn Ala	Leu Ala Gly Tyr Leu Leu Ala	
435	440	445
Lys Leu Arg Tyr Asp Ala Trp Thr Val	Thr Ala Gly Leu Arg Tyr Glu	
450	455	460
Asp Val Asp Leu Leu Lys	Asp Tyr Thr Lys Glu Asp Leu Ala Arg	
465	470	475 480
Ser Gly Lys Val Arg Ile Glu Thr Pro	Asn His Ala Arg Val Leu Ile	
485	490	495
Pro Gly Val Gly Leu His Tyr Gln	Leu Met Pro Ala Ala Ser Val Phe	
500	505	510
Phe Gly Ile His Lys Gly Phe Ala Pro	Pro Ser Ala Glu Leu Tyr Gln	
515	520	525
Lys Pro Glu Ser Ser Val Asn Met	Glu Leu Gly Thr Arg Val Ala Ile	
530	535	540
Gly Asn Phe Arg Ala Glu Leu Ile Gly	Phe Tyr Asn Asn Tyr Ser Asn	
545	550	555 560
Met Leu Gly Ser Asp Leu Ala Ala Ser	Gly Gly Gly Leu His His Gly	
565	570	575
Ala Ala Arg Ser Arg Ala Val Xaa		
580		

&lt;210&gt; 6689

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6689

Cys Arg His Ala Cys Pro Ser Gly Arg	Gly Gly Pro Gly Asp Gly Val	
1	5	10 15
Cys Pro Ala Leu Gly Thr Gly Ser	Gly Gly Asp Tyr Pro Gly Gly	
20	25	30
Thr Gly Gly Cys Asp Gly Gly	Glu Asp Leu Phe Cys Cys Arg Phe	
35	40	45
Ser Gly Val Gly Arg Arg Glu Trp	Lys Gly Gly Leu Glu	
50	55	60

&lt;210&gt; 6690

&lt;211&gt; 383

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6690

Val Leu Ala Tyr Gln Asp Ile Leu Arg	Glu Lys Asp Leu Cys Gly Thr	
1	5	10 15
Leu Cys Tyr Ser Val Val Lys His	Pro Phe Asn His Lys Ile Phe Pro	
20	25	30
Thr Met Ser Asp Lys Phe Gln Thr	Phe Cys Phe Ser His Ser Gly Ser	
35	40	45
Trp Phe Leu Pro Phe Leu Trp	Leu Ser Leu Leu Ala Gly Leu Ser Ala	
50	55	60
Cys Ser Trp Thr Gly Asp Asp Arg	Ser Asp Cys Pro Ser Gly Phe Arg	
65	70	75 80

Ile Arg Leu Gln Pro Ala Leu His Ala Gln Ile Gln Pro Asp Ser Gly  
 85 90 95  
 Thr Gly Val Ile Thr Asp Glu Ile Asp Thr Leu Ser Leu Tyr Val Phe  
 100 105 110  
 Asp Ala Gln Gly Gln Phe Val Cys Leu His Thr Glu Asn Arg Gln Ser  
 115 120 125  
 Leu Thr Glu Asn Asp Tyr Ile Ile Thr Leu Pro Leu Glu Tyr Lys Asp  
 130 135 140  
 Gly Asp Val Tyr Glu Leu Val Phe Trp Ala Gly Gly Asp Asn Arg His  
 145 150 155 160  
 Tyr Arg Met Pro Gln Leu Thr Pro Gly Ser Ser Thr Arg Asp Glu Leu  
 165 170 175  
 Thr Leu Arg Leu Glu Arg Asp Gly Asp Gly Arg Gln Asp Asp Glu Leu  
 180 185 190  
 Gly His Leu Trp Tyr Gly His Leu Arg Leu Ser Arg Ile Gln Pro Ser  
 195 200 205  
 Glu Leu Thr Ser Val Ser Val Pro Met Leu Lys Asp Ser Asn Arg Phe  
 210 215 220  
 Val Ile Thr Leu His Asp Thr Ser Gly Gln Gly Leu Asp Ala Asp Asp  
 225 230 235 240  
 Tyr Asp Phe Thr Leu Leu Ala Asp Asn Gly Arg Met Asn Ala Asp Asn  
 245 250 255  
 Glu Val Met Thr Gly Asp Arg Val Thr Tyr Ala Ala Tyr His Thr Glu  
 260 265 270  
 Ser Ala Ser Glu Thr Glu Pro Ala Ala Thr Arg Thr Gly Glu Val Ser  
 275 280 285  
 Leu Ala Arg Ala Arg Leu Asn Thr Leu Arg Leu Leu Ala Asp Gln Glu  
 290 295 300  
 Ala Arg Leu Val Val Thr Asp Arg Val Ser Gly Gln Lys Val Val Asp  
 305 310 315 320  
 Val Asp Leu Thr Arg Tyr Leu Leu Met Thr Arg Pro Leu Phe Glu Glu  
 325 330 335  
 Ser Asn Gly Val Glu Leu Ser Asp Gln Asp Tyr Leu Asp Tyr Glu Asp  
 340 345 350  
 Arg Phe Asn Val Ile Phe Tyr Leu Thr Pro Met Gly Lys Leu Glu Ala  
 355 360 365  
 Leu Asn Ile Asn Gly Trp Ile Ile Arg Leu Asn Asp Ala Gln Leu  
 370 375 380

&lt;210&gt; 6691

&lt;211&gt; 292

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6691

Arg Lys Lys Glu Met Lys Lys Leu Lys Tyr Met Ser Met Met Gly Leu  
 1 5 10 15  
 Ala Ala Leu Leu Leu Thr Thr Trp Ala Ala Cys Ser Asp Asp Thr Asp  
 20 25 30  
 Ala Ser Gly Gly Glu Asn Pro Glu Glu Ala Arg Ala Tyr Thr Thr Val  
 35 40 45  
 Thr Ile Ala Val Pro Asn Gly Val Ala Glu Thr Arg Ala Ser Asp Pro  
 50 55 60  
 Thr Ala Asp Thr Asp Asp Thr Asn Met Asp Ile Gly Leu Thr Asp Glu  
 65 70 75 80  
 Tyr Lys Val Thr Lys Ala Asn Leu Tyr Leu Phe Pro Gly Gly Thr Gly  
 85 90 95  
 Ser Ser Phe Gly Ser Ala Lys Leu Thr Glu Ile Ile Ser Ile Ser Gln  
 100 105 110

Phe Thr Gln Thr Thr Thr Thr Asp Gln Lys Thr Ile Val Trp  
     115                 120                 125  
 Thr Ser Lys Lys Thr Ala Leu Thr Pro Gly Asp Tyr Arg Ile Tyr Ile  
     130                 135                 140  
 Val Val Asn Gly Thr Val Asn Gly Val Gly Asp Ser Asp Lys Gly Thr  
     145                 150                 155                 160  
 Leu Thr Glu Ala Ala Phe Leu Ala Lys Thr Thr Ala Ala Ala Thr Ser  
     165                 170                 175  
 Val Ile Ala Ala Val Pro Ser Asp Gly Leu Val Met Ala Ser Arg Ser  
     180                 185                 190  
 Pro Asn Ser Asn Asn Ser Asn Thr Leu Pro Tyr Ile Ala Gln Glu Ile  
     195                 200                 205  
 Thr Lys Asp Pro Glu Gln Thr Ile Ala Ala Thr Val Glu Arg Val Met  
     210                 215                 220  
 Gly Lys Ile Thr Val Thr Ala Gly Gly Thr Ser Ala Ser Ser Ala Ala  
     225                 230                 235                 240  
 Thr Val Asn Lys Tyr Thr Ser Phe Ser Thr Thr Val Ala Gln Ile Asn  
     245                 250                 255  
 Asn Ile Lys Asp Ile Thr Leu Lys Thr His Tyr Val Val His Ala Gly  
     260                 265                 270  
 Lys Glu Gly Tyr Tyr Phe Arg His Val Asp Lys Glu Ser Ser Ala Thr  
     275                 280                 285  
 Asn Pro Leu Thr  
     290

<210> 6692  
 <211> 250  
 <212> PRT  
 <213> B.fragilis

<400> 6692  
 Gln Ile Arg Glu Arg Met Ile Lys Leu Ile Leu Pro Pro Pro Val Leu  
     1                 5                 10                 15  
 Ala Asn Ser Tyr Gly Asn Trp Tyr Leu Gln Gly Ser Ser Ala Phe Gly  
     20                 25                 30  
 Leu Ser Ser Phe Gly Thr Phe Ser Gly Thr Tyr Thr Asp Met Pro Gly  
     35                 40                 45  
 Tyr Ser Ser Gly Ala Val Glu Thr Lys Val Ala Ala Tyr Cys Tyr Glu  
     50                 55                 60  
 Asn Thr Met Leu Lys Asp Gln Lys Asn Gly Tyr Thr Thr Gly Ile  
     65                 70                 75                 80  
 Val Phe Lys Ala Glu Ile Ala Pro Ser Lys Met Met Lys Lys Arg Ser  
     85                 90                 95  
 Ser Gly Gly Val Glu Glu Thr Thr Ile Gly Ser Ile Gly Glu  
     100                105                110  
 Ile Phe Tyr His Ser Gly Ile Phe Tyr Lys Asp Ile Glu Ala Leu Lys  
     115                120                125  
 Glu Ala Gly Val Leu Leu Ala Asp Gly Thr Thr Ser Ser Ser Ala Ser  
     130                135                140  
 Gly Val Pro Ala Asp Leu Lys Lys Asn Asp Val Gln Cys Phe Lys Lys  
     145                150                155                160  
 Gly Asn Thr Asp Gly Lys Phe Phe Cys Tyr Tyr Pro Tyr Trp Ile Lys  
     165                170                175  
 His Leu Pro Ser Asp Thr Ala Glu Asp Val Met Glu Phe Gly Ile Val  
     180                185                190  
 Arg Asn Asn Val Tyr Gln Val Thr Val Ala Ser Ile Gln Gly Val Gly  
     195                200                205  
 Lys Asp Gly Val Thr Glu Asn Ile Ile Thr Asp Thr Glu Thr Asp Asp  
     210                215                220

Pro Thr Thr Val Leu Leu Asn Val Lys Leu Ser Ile Lys Pro Trp Val  
 225 230 235 240  
 Val Arg Ala Asn Ser Ala Val Leu Gly Arg  
 245 250

<210> 6693

<211> 495

<212> PRT

<213> B.fragilis

<400> 6693

Ile Ser Gly Ser Glu Gln Glu Lys Phe Ser Gly Ala Asp Pro Cys Gly  
 1 5 10 15  
 His Gln Ser Asp Leu Tyr Val Lys Ile Lys Ser Leu Met Lys Glu Lys  
 20 25 30  
 Ile Arg Ser Thr Arg Leu Arg Met Cys Phe Arg Lys Met Pro Pro Ala  
 35 40 45  
 Val Cys Phe Leu Thr Leu Phe Ala Leu Cys Phe Gly Ala Leu Ser Val  
 50 55 60  
 Arg Ala Ala Asp Pro Ser Gly Arg Val Ala Leu Ser Ala Val Arg Met  
 65 70 75 80  
 Gln Arg Ala Gly Gly Gln Val Tyr Val Ser Phe Ala Val Lys Ile Ala  
 85 90 95  
 Pro Arg Ala Val Arg Ala Arg His Arg Trp Val Ile Thr Pro Cys Leu  
 100 105 110  
 Gly Asn Ala Ser Asp Ser Val Leu Leu Gly Pro Phe Val Val Thr Gly  
 115 120 125  
 Arg Ile Met Ala Arg Glu Glu Asn Gln Arg Arg Leu Leu Ala Gly Leu  
 130 135 140  
 Pro Asp Arg Asp Val Asn His Arg Trp Thr Ala Arg Asn Gly Asp Thr  
 145 150 155 160  
 Phe Leu Tyr Thr Asp Thr Leu Arg Tyr Ala Pro Trp Met Glu Asn Gly  
 165 170 175  
 Leu Asn Leu Arg Leu Asp Ile Asp Arg Glu Gly Cys Cys Arg Val Gln  
 180 185 190  
 Thr Val Gly Ser Ile Val Ser Ser Gly Ala Phe Pro Val Ala Leu Pro  
 195 200 205  
 Tyr Arg Pro Ser Val Ser Glu Leu Thr Pro Arg Val Ser Arg Thr Val  
 210 215 220  
 Ala Glu His Ala Asp Asp Tyr Pro Phe Leu Cys Glu Ala Gly Ser Arg  
 225 230 235 240  
 Pro Leu His Glu Ser Gly Ile Gly Ile Arg Phe Arg Ala Ala Ser Ala  
 245 250 255  
 Val Val Asp Thr Leu Tyr Ser Ala Asn Ala Gly Asn Leu Arg Arg Ile  
 260 265 270  
 Thr Glu Ala Ile Gly Leu Leu Arg Ala Asp Ser Cys Ala Phe Leu Gln  
 275 280 285  
 Gly Ile Ser Ile Ser Gly Tyr Ala Ser Pro Glu Gly Thr Thr Gly Leu  
 290 295 300  
 Asn Arg Lys Leu Ser Ala Lys Arg Ala Glu Ala Leu Arg His Ala Leu  
 305 310 315 320  
 Ser Val Arg Met Asn Leu Pro Val Ser Leu Phe Glu Leu Asn Ala Gly  
 325 330 335  
 Gly Val Asp Trp Asp Arg Leu Ala Glu Leu Val Asn Gly Ser Asp Met  
 340 345 350  
 Thr Tyr Lys Glu Glu Val Leu Ala Ile Leu Arg Ser His Pro Glu Glu  
 355 360 365  
 Glu Arg Asn Asp Arg Leu Lys Ala Leu Ala Gly Gly Arg Pro Tyr Arg  
 370 375 380

Ser Val Leu Asp Val Leu Tyr Pro Gln Leu Arg Asp Ala Cys Tyr Ile  
 385 390 395 400  
 Arg Val Gln Tyr Ala Asn Arg Pro Asp Ser Val Ala Asp Thr Val Asn  
 405 410 415  
 Arg Ala Ile Glu Ala Ile Arg Gly Arg Lys Tyr Glu Glu Ala Phe Arg  
 420 425 430  
 Leu Leu Lys Thr Val Glu Ala Asp Glu Arg Ser Trp Asn Val Arg Gly  
 435 440 445  
 Val Cys His Leu Leu Cys Gly Asp Asp Lys Glu Ala Gly Leu Trp Leu  
 450 455 460  
 His Arg Ala Val Lys Ala Gly Asn Arg Glu Ala Glu Glu Asn Leu Lys  
 465 470 475 480  
 Lys Met Asn Ala Glu Arg Arg Ala Ala Thr Ile Gly Ile Thr Gln  
 485 490 495

&lt;210&gt; 6694

&lt;211&gt; 112

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6694

Ala Pro Leu Leu Pro Leu Ser Ser His Ser Thr Asp Thr Phe Leu Gly  
 1 5 10 15  
 Val His Ala Gly Gly Glu Ser Asn Leu Ser Arg Val His Leu Leu  
 20 25 30  
 Phe Val Ser Arg Trp Val Ser Ser Arg Tyr Glu Gly Trp Ala Leu Met  
 35 40 45  
 Pro Gly Phe Ser Ser Gly Tyr Ser Trp Val Leu Gly Lys Arg Trp Asn  
 50 55 60  
 Leu Glu Ala Thr Ile Gly Ala Gly Trp Val His Ala Gln Tyr Lys Arg  
 65 70 75 80  
 Phe Asn Cys Pro Val Cys Gly Glu Tyr Arg Gly Ala Asn Lys Lys Asn  
 85 90 95  
 Phe Leu Ala Pro Thr Arg Ala Gly Ile Ser Leu Ile Tyr Met Leu Lys  
 100 105 110

&lt;210&gt; 6695

&lt;211&gt; 344

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6695

Arg Thr Ala Ser Pro Phe Ser Pro Ser Gly Thr Ala Ser Val Asn Gly  
 1 5 10 15  
 Arg Ser Met Lys Ser Ser Glu Asp Ser Lys Arg Ser Val Arg Ser Met  
 20 25 30  
 Gln Tyr Lys Cys Arg Pro Phe Phe Val Phe Met Gly Lys Thr Glu Glu  
 35 40 45  
 Phe Cys Cys Pro Glu Ile Gln Thr His Ile Leu His Asp Lys Met Ile  
 50 55 60  
 Met Lys Lys Glu Lys Thr Tyr Ser Arg Ala Pro Leu Pro Phe Val Gly  
 65 70 75 80  
 Gln Lys Arg Met Phe Val Ser Glu Phe Lys Lys Ile Leu Lys His Phe  
 85 90 95  
 Asp Asp Lys Thr Ile Phe Val Asp Leu Phe Gly Gly Ser Gly Leu Leu  
 100 105 110  
 Ser His Ile Thr Lys Arg Glu Arg Pro Asp Ala Val Val Ile Tyr Asn  
 115 120 125  
 Asp His Asp Asn Tyr Arg Glu Arg Leu Glu Asn Ile Asp Arg Thr Asn

130	135	140
Thr Leu Leu Arg Asp Leu Arg Lys Ile Val Gly Ile Tyr Pro Arg His		
145	150	155
Gln Lys Ile Thr Gly Lys Met Arg Glu Ala Phe Leu Glu Arg Ile Arg		160
165	170	175
Leu Glu Glu Thr Thr Gly Phe Val Asp Tyr Leu Thr Leu Ser Thr Ser		
180	185	190
Leu Leu Phe Ser Gly Lys Tyr Ala Gln Asn Met Glu Glu Leu Glu Gly		
195	200	205
Leu Tyr Phe Tyr Asn Lys Ile Arg Gln Ser Asp Tyr Arg Cys Asp Gly		
210	215	220
Tyr Leu Asp Gly Leu Glu Val Val Cys Tyr Asp Tyr Lys Glu Leu Ala		
225	230	235
Asp Thr Tyr Gly Val Phe Pro Gly Val Val Phe Leu Val Asp Pro Pro		240
245	250	255
Tyr Met Gly Thr Asp Ile Ser Thr Tyr Lys Met Asp Trp Lys Leu Ala		
260	265	270
Asp Tyr Leu Asp Val Leu Leu Val Leu Lys Gly His Pro Phe Val Tyr		
275	280	285
Phe Thr Ser Gly Lys Ser Pro Ile Leu Asp Phe Cys Arg Trp Met Glu		
290	295	300
Glu His Pro Gly Ile Gly Asn Pro Phe Lys Gly Ala Gly Arg Ser Thr		
305	310	315
Leu Thr Ala Arg Met Asn Tyr Asn Ser Ser Tyr Thr Asp Ile Met Leu		320
325	330	335
Tyr Lys Asp Leu Pro Arg Ala Ala		
340		

&lt;210&gt; 6696

&lt;211&gt; 87

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6696

Ala Arg Gly Thr Thr Tyr Ile Gln Phe Ile Thr Leu Ser Ala His		
1	5	10
Ser Met Val Arg Ala Thr Thr Val Ala Pro Ser Leu Leu Phe Lys Val		15
20	25	30
Ile Pro Val Gln Ala Pro Ala Gly Ile Cys Gly Thr Leu His Lys Thr		
35	40	45
Asp Ile Asn Asn Ala Asp Asn Phe Val Phe Ile Leu Ser Ile Leu Met		
50	55	60
Val Val Tyr Gly Ser Val Thr His Ser Ile Pro Glu Arg Leu Ile Thr		
65	70	75
Ile Glu Ser Asn Tyr Ser Phe		80
85		

&lt;210&gt; 6697

&lt;211&gt; 145

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6697

Asn Leu Lys Thr His Lys Glu Val Thr Ser Asn Lys Ser Lys Thr Leu		
1	5	10
Asp Phe Val Ile Ser Lys Thr Met Lys Ile Phe Arg Tyr Ile Leu Leu		15
20	25	30
Ala Ser Leu Thr Cys Thr Leu Phe Ser Cys Gly Pro Asp Glu Leu Ile		
35	40	45

Pro Glu Ser Val Pro Pro Val Val Asn Pro Gly Asp Lys Asp Glu Pro  
   50                       55                       60  
 Gly Glu Glu Pro Glu Glu Pro Glu Glu Pro Glu Lys Ile Gln Leu Ala  
   65                       70                       75                       80  
 Ile Thr Ala Ser Leu Gln Asn Met Gln Gln Thr Arg Gly Ile Ile Glu  
   85                       90                       95  
 Ala Phe Ala Pro Gly His Glu Met Gly Val Phe Val Gly Thr Ser Gln  
   100                      105                       110  
 Thr Asp Glu Ala Ala Gly Ile Lys Asn Ala Ser Tyr Leu Phe Asp Gly  
   115                      120                       125  
 Lys Val Trp Asn Ala Gly Gln Asp Val Pro Val Glu Ala Asp Ala Gly  
   130                      135                       140  
 Leu  
 145

<210> 6698  
 <211> 116  
 <212> PRT  
 <213> B.fragilis

<400> 6698  
 His Thr Asp Ala His His Arg Thr Thr Gly Gly Lys Tyr Pro Cys Arg  
   1                       5                       10                       15  
 Gly Met Arg Phe Tyr Leu Tyr Met Asn Asp Trp Leu Cys Lys Asp Lys  
   20                      25                       30  
 Lys Ile Phe Ala Met Thr Leu Phe Glu Ile Leu Asn Phe Asn Arg Glu  
   35                      40                       45  
 Leu Leu Glu Arg Leu Thr Arg Met Gly Phe Lys Pro Asp Asp Tyr Lys  
   50                      55                       60  
 Tyr Ile Asp Leu Tyr Lys Glu Tyr Glu Gln Met Arg Arg Gln Gly Asp  
   65                      70                       75                       80  
 Lys Val Thr Tyr Cys Val Ala Val Leu Ser Ile Arg His Gly Val Cys  
   85                      90                       95  
 Glu Arg Lys Ile Tyr Glu Ile Val Gly Arg Phe Lys Lys Glu Cys Thr  
   100                     105                       110  
 Leu His Ala Val  
   115

<210> 6699  
 <211> 366  
 <212> PRT  
 <213> B.fragilis

<400> 6699  
 Thr Thr Ile Lys Ile Glu Ser Met Asn Thr Lys Leu Ser Ala Leu Leu  
   1                       5                       10                       15  
 Met Ser Val Leu Cys Ser Val Pro Gln Ile Pro Ala Gly Ala Cys Thr  
   20                      25                       30  
 Gly Ile Thr Leu Lys Ser Lys Asp Gly Ala Thr Val Val Ala Arg Thr  
   35                      40                       45  
 Ile Glu Trp Ala Glu Ser Val Met Asn Cys Met Tyr Val Val Val Pro  
   50                      55                       60  
 Arg Ala Gln Glu Leu Gln Ser Leu Thr Pro Ser Gly Met Asp Gly Leu  
   65                      70                       75                       80  
 Lys Phe Arg Ala Lys His Gly Phe Val Gly Leu Ala Val Glu Gln Lys  
   85                      90                       95  
 Glu Phe Val Val Glu Gly Met Asn Glu Lys Gly Leu Ser Ala Gly Leu  
   100                     105                       110  
 Tyr Tyr Phe Pro Asn Tyr Gly Arg Tyr Pro Val Tyr Asp Ala Ala Gln

115	120	125
Arg Asp Lys Ser Leu Ala Asp Phe Gln Leu Val Ser Tyr Val Leu Ala		
130	135	140
Glu Cys Ser Thr Val Asp Glu Val Lys Glu Ala Leu Ser Gln Val Arg		
145	150	155
Val Ile Asn Ile Asp Pro Arg Ser Ser Thr Val His Trp Arg Phe Thr		
165	170	175
Glu Ala Ser Gly Arg Gln Val Val Leu Glu Ile Val Asn Glu Met Met		
180	185	190
Asn Phe Tyr Asp Asn Pro Leu Gly Val Leu Thr Asn Ser Pro Gly Leu		
195	200	205
Glu Trp His Trp Thr Asn Leu Asn Asn Tyr Ile Asn Leu Gln Pro Gly		
210	215	220
Thr Leu Pro Glu His Asn Phe Gly Pro Leu Glu Pro Lys Ser Phe Gly		
225	230	235
His Gly Ser Gly Leu Leu Gly Leu Pro Gly Asp Phe Thr Pro Pro Ser		
245	250	255
Arg Phe Val Arg Ala Thr Phe Phe Gln Leu Thr Ala Pro Gln Gln Pro		
260	265	270
Asp Ala Lys Gly Ser Val Phe Gln Ala Phe His Ile Leu Asn Asn Phe		
275	280	285
Asp Ile Pro Thr Gly Ser Glu Gln Pro Trp Gly Lys Ala Ser Ala Asn		
290	295	300
Val Pro Ser Ala Thr Gln Phe Thr Val Ala Cys Asp Ile Arg Asp Gln		
305	310	315
Lys Val Tyr Tyr Arg Thr Met Tyr Asn Ser Asn Ile Arg Cys Ile Asp		
325	330	335
Leu Lys Thr Ile Asn Phe Asp Asn Val Lys Tyr Gln Ala Asp Pro Leu		
340	345	350
Asp Glu Thr Lys Glu Gln Pro Val Glu Met Lys Val Ile Lys		
355	360	365

&lt;210&gt; 6700

&lt;211&gt; 62

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6700

Lys Val Thr Lys Leu Asn Gln Ile Ala Leu Leu Tyr Ile Pro Thr Leu		
1	5	10
Cys Gly Leu Tyr Thr Ser Phe Val Ala Phe Val Val Leu Gln His Ser		
20	25	30
Gln Ser Ala Asn His Arg Thr Val Tyr Met Ala Asn Gly Lys Glu Asn		
35	40	45
Val Lys Arg Asn Arg Met Lys Gly Ser Asp Lys Thr Lys Tyr		
50	55	60

&lt;210&gt; 6701

&lt;211&gt; 141

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6701

Leu Asn Lys Lys Lys Leu Ser Phe Leu Phe Leu Lys Val Ile Ile Thr		
1	5	10
Glu Ala Ile Lys Gln Leu Phe Ser Ser His Thr Phe Gln Thr Leu Ser		
20	25	30
Leu Glu Ser Arg Thr Leu Leu Asp Glu Tyr Asn Phe Thr Lys Ser Met		
35	40	45

Ile Ala Asn Leu Leu Asp Lys Gln Glu Lys Leu Tyr Leu Val Pro Ser  
 50 55 60  
 Thr Lys Lys Glu Asn Glu Leu Leu Ala Gly Ile Ile Leu Asn Asp Glu  
 65 70 75 80  
 Ile Ile Tyr Leu Leu Lys Phe Ser Lys Ala Ser Asp Asn Ile Tyr Thr  
 85 90 95  
 Leu Tyr Asn Glu Thr Asn Glu Pro Ile Cys Asp Val Lys Tyr Asp Phe  
 100 105 110  
 Glu Lys Gln Asn Ile Val Ile Ile Ser Asn Tyr Gly Asn Asp Ala Ile  
 115 120 125  
 Pro Pro Thr Thr Gln Val Gly Thr Val Leu Phe Val Ile  
 130 135 140

&lt;210&gt; 6702

&lt;211&gt; 271

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6702

Ser Arg Arg Cys Lys Arg Met Lys Thr Ile Thr Thr Ala Cys Val Asn  
 1 5 10 15  
 His Lys Gly Gly Val Ala Lys Thr Thr Ser Leu Leu Asn Leu Ala Ala  
 20 25 30  
 Gly Ile Ala Arg Met Tyr Lys Lys Arg Val Cys Ile Ile Asp Ala Asp  
 35 40 45  
 Pro Gln Ala Asn Thr Thr Met Ala Ala Phe Gly Glu Glu Met Ala Ser  
 50 55 60  
 Leu Pro Arg Glu Val Leu Leu Glu Ser Ala Leu Gln Asp Cys Met Gln  
 65 70 75 80  
 Asp Thr Pro Pro Glu Leu Lys Pro Gln Lys Trp Leu Glu Lys Val Asp  
 85 90 95  
 Ile Leu Pro Ala Ser Leu Asp Leu Ala Ala Thr Glu Val Ile Met Tyr  
 100 105 110  
 Thr Thr Pro Gly Arg Glu Phe Leu Phe Arg Glu Ile Val Lys Gly Leu  
 115 120 125  
 Glu Glu Lys Tyr Asp His Ile Leu Ile Asp Cys Pro Pro Ser Leu Gly  
 130 135 140  
 Ile Ile Thr Gln Asn Ala Leu Met Ala Ser Asp Tyr Val Ile Ile Pro  
 145 150 155 160  
 Thr Asp Gly Asn Tyr Phe Ala Met Lys Gly Ile Glu Lys Ile His Tyr  
 165 170 175  
 Ile Ile Gly Leu Leu Lys Arg Lys Leu Gly Ala Glu Val Arg Ile Leu  
 180 185 190  
 Gly Tyr Phe Met Thr Lys Tyr Asn Ala Arg Arg Lys Leu Asp Met Asp  
 195 200 205  
 Ile Arg Glu Ser Leu Val Arg Ser Leu Gly Asp Gly Val Phe Glu Thr  
 210 215 220  
 Val Ile Arg Ser Asn Val Ala Leu Gly Glu Ala Gln Tyr Lys Ala Gln  
 225 230 235 240  
 Ser Ile Phe Asp Tyr Ala Pro Ser Ser Asn Gly Ala Asp Asp Tyr Arg  
 245 250 255  
 Glu Leu Val Lys Glu Phe Leu Gly Arg Ile Lys Lys Ile Asn Lys  
 260 265 270

&lt;210&gt; 6703

&lt;211&gt; 97

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6703

Lys	Lys	Gly	Arg	Ile	Met	Lys	Asp	Phe	Thr	Ser	Lys	Gly	Ile	Ser	Leu
1															15
Glu	Asn	Met	Val	Gly	Glu	Thr	Pro	Gly	Lys	Glu	Lys	Gly	Met	Thr	Gly
															30
Lys	Thr	Ser	Pro	Lys	Thr	Asn	Gln	Thr	Val	Ala	Leu	Thr	Glu	Asp	Leu
															45
Lys	Trp	Glu	Leu	Arg	Thr	Phe	Ala	Ser	Asp	His	Arg	Cys	Arg	Gly	Val
															50
															60
Lys	Thr	Leu	Leu	Glu	Thr	Met	Ile	Glu	Cys	Phe	Val	Arg	Glu	Asp	Gly
															65
															70
Thr	Leu	Asp	Arg	Asp	Lys	Leu	Glu	Gly	Phe	Trp	Arg	Glu	Tyr	Val	Glu
															85
															90
															95

Lys

&lt;210&gt; 6704

<211> 522  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6704

Leu	Tyr	Thr	Met	Lys	Lys	Ile	Ser	Ile	Leu	Ile	Ala	Ala	Leu	Thr	Leu
1															15
Ser	Ile	Ser	Leu	Lys	Pro	Leu	Ala	Ala	Gln	Asn	Lys	Lys	Val	Phe	Ile
															20
															30
Ile	Asp	Lys	Gln	Thr	Val	Tyr	Gln	Glu	Ile	Asp	Asn	Phe	Ser	Ala	Ser
															35
															40
Asp	Ala	Trp	Arg	Cys	Ala	Phe	Ile	Gly	Lys	Asn	Trp	Pro	Gln	Glu	Lys
															50
															55
Lys	Glu	Lys	Ile	Ala	Asp	Leu	Leu	Phe	Lys	Arg	Glu	Phe	Asp	Glu	Lys
															65
															70
Gly	Asn	Pro	Ile	Gly	Met	Ala	Leu	Thr	Asn	Trp	Arg	Val	Asn	Ile	Gly
															85
															90
Ala	Gly	Ser	Tyr	Glu	Asn	Arg	Glu	Ala	Lys	Glu	Val	Asp	Asn	Ser	Trp
															100
															105
Asn	Arg	Thr	Glu	Cys	Phe	Leu	Ser	Pro	Asp	Gly	Lys	Tyr	Asp	Phe	Thr
															115
															120
Lys	Gln	Ala	Gly	Gln	Gln	Trp	Phe	Met	Lys	Ala	Ala	Arg	Glu	Arg	Gly
															130
															135
Met	Asn	Asn	Phe	Leu	Phe	Phe	Thr	Asn	Ser	Ala	Pro	Tyr	Phe	Met	Thr
															145
															150
Arg	Ser	Ala	Ser	Thr	Val	Ser	Thr	Asp	Gln	Asp	Cys	Ile	Asn	Leu	Gln
															165
															170
Asn	Asp	Lys	Phe	Asp	Asp	Phe	Ala	Arg	Phe	Leu	Val	Lys	Ser	Ala	Gln
															180
															185
His	Phe	Arg	Glu	Gln	Gly	Phe	His	Val	Asn	Tyr	Ile	Ser	Pro	Asn	Asn
															195
															200
Glu	Pro	Asn	Gly	Gln	Trp	His	Ala	Asn	Ser	Phe	Gln	Glu	Gly	Ser	Phe
															210
															215
Ala	Thr	Lys	Ala	Asp	Leu	Tyr	Arg	Met	Val	Glu	Glu	Leu	Asp	Lys	Ala
															225
															230
Ile	Ser	Glu	Ala	Gln	Ile	Asp	Thr	Lys	Ile	Leu	Ile	Pro	Glu	Val	Gly
															245
															250
Asp	Met	Lys	Tyr	Leu	Phe	Glu	Ile	Asp	Ser	Ile	Ala	Lys	Ile	Pro	Asp
															260
															265
Asp	Ile	Ile	His	Ser	Met	Phe	Tyr	Lys	Asp	Gly	Gln	Tyr	Ser	Val	Leu
															275
															280
Lys	Phe	Lys	Asn	Leu	Phe	Asn	Cys	Val	Ala	Ala	His	Asp	Tyr	Trp	Ser

290	295	300
Ala Tyr Pro Ala Thr Leu Leu Val Asp Ile Arg Asn Arg Ile His Lys		
305	310	315
Glu Leu Ser Ala Asn Gly His Asn Thr Lys Phe Trp Ala Ser Glu Tyr		320
325	330	335
Cys Ile Leu Glu Lys Asn Glu Glu Ile Thr Met Pro Ala Ser Pro Glu		
340	345	350
Arg Ser Ile Asn Leu Gly Leu Tyr Val Ala Arg Ile Ile His Asn Asp		
355	360	365
Leu Thr Leu Ala Asn Ala Ser Ala Trp Gln Trp Trp Thr Ala Val Ser		
370	375	380
Leu Gly Glu Asp Val Pro Ile Gln Leu Leu Pro Leu Glu Gly Ser Asn		
385	390	395
Gly Leu Ser Leu Gln Tyr Asp Gly Glu Ile Ser Thr Thr Lys Met Leu		400
405	410	415
Trp Thr Thr Ala Asn Tyr Ser Phe Phe Val Arg Pro Gly Met Lys Arg		
420	425	430
Ile Ala Val Lys Pro Thr Tyr Lys Val Ser Asp Leu Glu Ala Ala Thr		
435	440	445
Ser Leu Met Ile Ser Ser Tyr Thr Asp Gly Lys Glu Val Val Thr Val		
450	455	460
Ala Ile Asn Tyr Ser Lys Glu Asn Gln Val Ile Ser Leu Asn Cys Asp		
465	470	475
His Ala Gln Lys Gly Lys Val Tyr Leu Thr Thr Ile Asp Lys Asn Leu		480
485	490	495
Arg Tyr Met Gly Glu Gln Pro Leu Lys Lys Leu Gln Leu Pro Ala Arg		
500	505	510
Ser Val Ala Thr Ile Val Val Glu Asp Asn		
515	520	

&lt;210&gt; 6705

&lt;211&gt; 73

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6705

Ser Val Phe Val Ala Ser Met Lys Arg Gln Gly Val Glu Val His Phe		
1	5	10
Arg His Met Glu Gln Ser Asn Lys Leu Gln Asp Ile Val Phe Thr Met		15
20	25	30
Asp Ser Tyr His Phe Asn Gly Ser Lys Val Gly Arg Arg Phe Ser Tyr		
35	40	45
Ser Lys Phe Gly Thr Thr Leu Phe Ser Trp Ala Val Pro Pro Leu Phe		
50	55	60
Ala Ser Gly Ser Leu Cys Cys Arg Ile		
65	70	

&lt;210&gt; 6706

&lt;211&gt; 422

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6706

Lys Thr Lys Val Arg Phe Leu Arg Ala Trp Arg Tyr Tyr Met Met Val		
1	5	10
Thr Ala Tyr Gly Asp Ile Pro Leu Val Thr Glu Val Val Pro Ser Leu		15
20	25	30
Glu Asp Ala Lys Leu Pro Ala Asn Pro Glu Thr Asp Val Val Glu Phe		
35	40	45

Ile Leu Asp Glu Leu Asn Asp Ile Thr Lys Asp Gly Ala Leu Asp Val  
 50 55 60  
 Ser Pro Lys Gln Lys Gly Arg Ile Thr Arg Gly Ala Ala Leu Ala Leu  
 65 70 75 80  
 Lys Val Arg Leu Cys Leu Phe Tyr Lys Lys Tyr Asp Glu Val Ile Asp  
 85 90 95  
 Ala Ala Asn Glu Ile Asn Ser Leu Gly Val Tyr Asn Leu Tyr Gln Glu  
 100 105 110  
 Gly Glu Val Pro Tyr Ser Glu Leu Phe Lys Glu Ala Asn Glu Asp Asn  
 115 120 125  
 Cys Glu Ile Ile Leu Ala Val Lys Lys Val Met Asn Asp Tyr Lys Asn  
 130 135 140  
 Gln Thr Ile Ile Glu Phe Cys Asn Val Ile Asp Gly Gly Trp Ser Ala  
 145 150 155 160  
 Phe Val Pro Ile Gln Ser Leu Ile Asp Ala Tyr Glu Met Lys Asp Gly  
 165 170 175  
 Leu Thr Ile Glu Glu Ala Gln Ala Lys Gly Glu Tyr Asn Pro Glu His  
 180 185 190  
 Pro Tyr Lys Asp Arg Asp Pro Arg Phe Tyr Ala Thr Ile Leu Tyr Ser  
 195 200 205  
 Gly Ala Asp Trp Met Asp Asn Lys Gly Arg Lys Arg Ile Tyr Asn Thr  
 210 215 220  
 Leu Asp Arg Asn Ile Asn Gly Glu Pro Asn Lys Asp His Arg Leu Asp  
 225 230 235 240  
 Ser Arg Asn Ala Ser Gln Thr Ser Tyr Ser Ile Cys Lys Tyr Met Lys  
 245 250 255  
 Pro Leu Thr Gln Tyr Ser Asp Ile Asn Asn Thr Gly Leu Asp Met Ile  
 260 265 270  
 Val Phe Arg Tyr Ala Glu Ile Leu Ser Lys Ala Glu Ala Met Ile  
 275 280 285  
 Glu Lys Asn Thr Asp Leu Ser Gly Ala Thr Asp Leu Ile Asp Leu Ile  
 290 295 300  
 Arg Glu Arg Ala Gly Met Pro Lys Val Asp Arg Ala Lys Tyr Asn Thr  
 305 310 315 320  
 Gln Ala Lys Leu Arg Glu Leu Leu Arg Arg Glu Arg Arg Val Glu Phe  
 325 330 335  
 Ala Phe Glu Gly Leu Arg Arg Asp Asp Ile Ile Arg Trp Asp Ile Ala  
 340 345 350  
 Lys Asp Val Leu Asn Gly Pro Ile Tyr Ala Ser Asn Gln Gly Thr Val  
 355 360 365  
 Asp Met Asp Thr Ser Ile Pro Gln Glu Glu Arg Ala Thr Ile Phe Gln  
 370 375 380  
 Gly Glu Lys Asn Gln Val Val Leu Glu Ile Arg Lys Phe Arg Asn Arg  
 385 390 395 400  
 Tyr Met Pro Ile Pro Gln Ala Glu Leu Asp Lys Asn Pro Asn Leu Lys  
 405 410 415  
 Gln Thr Asn Phe Lys Ile  
 420

&lt;210&gt; 6707

&lt;211&gt; 81

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6707

Pro Val Leu Ser Leu His Leu Cys Ile Tyr Tyr Ser Phe Ser Tyr Ser			
1	5	10	15
Lys Tyr His Ser Val Phe Pro Lys Asp Thr Asn His Ile Lys Ile Pro			
20	25	30	

Asp Ser Arg His Gly His Arg Gly Gly Ile Asn Lys Trp Thr Tyr Leu  
     35                        40                        45  
 Phe Ile Lys Ser Ser Thr Arg Pro Met Ala Tyr Gln Pro Asp Gly Asp  
     50                        55                        60  
 Arg Gly Gln Asn Leu Asn Pro Ile Leu Asn Val Gly Ala Ala Ser Thr  
     65                        70                        75                        80  
 Leu

<210> 6708  
 <211> 152  
 <212> PRT  
 <213> B.fragilis

<400> 6708  
 Ile Asn Lys Ser Ile Tyr Leu Tyr Leu Pro Gly Val Arg Asp Gly Cys  
     1                        5                        10                        15  
 Arg Gly Phe Leu Cys Asp Trp Tyr Leu Trp Glu Arg Leu Asn Gly Ile  
     20                        25                        30  
 Trp Asn Met Lys Lys Ser Asn Ile Tyr Ile Gly Glu Val Ile Lys Gln  
     35                        40                        45  
 Val Ile Ala Glu Lys Gln Val Thr Lys Ala Glu Leu Ala Arg Arg Leu  
     50                        55                        60  
 Gly Val Lys Pro Gln Ser Val Asp Tyr Leu Leu Thr Arg Lys Ser Ile  
     65                        70                        75                        80  
 Asp Thr Asp Thr Leu Tyr Ser Leu Ser Leu Ala Leu Asp Tyr Asp Phe  
     85                        90                        95  
 Ala Val Leu Tyr Ser Ile Lys Lys Glu His Ala Leu Ala Thr Asp Glu  
     100                       105                       110  
 Glu Ser Pro Phe Lys Val Gly Asn Ala Lys Ile Ser Leu Glu Ile Glu  
     115                       120                       125  
 Leu Arg Pro Asp Glu Met Leu Lys Leu Asn Leu Lys Gln Lys Ile Ala  
     130                       135                       140  
 Asp Leu Leu Glu Gly Lys Gly Lys  
     145                       150

<210> 6709  
 .  
 <211> 749  
 <212> PRT  
 <213> B.fragilis

<400> 6709  
 Arg Arg Tyr Leu Pro Pro Ala Ile Asn Phe Val Ser Asn Cys Ile Thr  
     1                        5                        10                        15  
 Ile Asp Thr Lys Leu Leu Ser Glu Ala Asp Thr Gly Ser Gln Leu His  
     20                        25                        30  
 Gly Lys Arg Thr Asn Ile Thr Ala Arg His Pro Met Thr Val Ile Arg  
     35                        40                        45  
 Cys Arg Ile Phe Phe Val His Gln Phe Gly Pro Gly Asn Ala Ser Phe  
     50                        55                        60  
 Ser Pro Gly Leu Ile Gln Glu Ile Asp Asn Arg Gly Thr Gln Arg Lys  
     65                        70                        75                        80  
 Met Leu Val His Arg Pro Val Asp Thr Ser Glu Gly Phe Pro Ala Ser  
     85                        90                        95  
 Val Glu Ile Val Ser Ile Phe Asn Val Gly Ile Arg Leu Ala Glu Val  
     100                       105                       110  
 Ala Glu Ala Gly Pro Asp Ser Glu Ile Ile Arg Asp Val Ile Ala Gly  
     115                       120                       125  
 Ile Gln Phe Asp Lys His Phe Arg Asn Leu Arg His Asn Ile Pro Cys

130	135	140
Gly Ile Asp Leu Pro His Arg Thr Val Phe Lys	Gly His Thr Arg Phe	
145	150	155
Ile Leu Leu Val Ser Arg Thr Leu Ile Ser Glu	Glu Glu Val Glu Val	160
165	170	175
Glu Ala Leu Lys Arg Leu Asp His Cys	Ile Arg Arg Pro Ala Asp Gly	
180	185	190
Leu Asp Val Ile Thr Gln Arg Gly	Gly Glu Asn Leu Ser Leu Val Ile	
195	200	205
Arg Ile Asn Gln Val Gln Cys Arg Val Val Ile	Arg Leu Arg Asp Ile	
210	215	220
Arg Glu Gln Arg Gly Gln Thr Asp Pro Ile	Gly Val Ile Ile Asp Pro	
225	230	235
Gly Thr Ser Gln Gly Asn Arg Asp Phe	Ile Gly Ile Gly His Ser Gly	
245	250	255
Arg Cys Lys Val Arg Gln Ala Gly	Thr Leu Cys Val Val Ser Glu Ile	
260	265	270
Gly Gly Lys Thr Lys Phe Thr Gly	Gln Leu Ile Ser Ser Gly Gly Ser	
275	280	285
Lys Gly His Val His Pro Val Val Val Glu Lys	Thr Gly Ser Asp Pro	
290	295	300
Asp Ser Phe Ile Gly His Ser Ser Gln Val	Ile Ile Arg Lys Thr Ala	
305	310	315
Tyr Gly Ile Pro Phe Gly Ile Val Tyr Ser Arg	Ile Phe Thr Phe Gln	
325	330	335
Val Leu Pro Phe Gln Thr Gly Ala Ile Ile His	Val Pro Leu Gly Arg	
340	345	350
Asn Ile Pro Ile Val Ser Gly Ile Asn Ser Gln	Phe Val Phe Met Ser	
355	360	365
Phe Ile Ile Phe Arg Ser Ile Leu Ile Glu	Ile Val Ile Tyr Thr Ile	
370	375	380
Cys Ile Pro Phe Thr Tyr Gln Thr Phe Gly	Ile Leu Leu Tyr Arg Met	
385	390	395
Ile Val His Gly Ser Ile Arg Ser Ile Ile His	Leu Ile Val Pro Phe	
405	410	415
Val His Ser Asp Ser Pro Gly Arg Ile Thr Ile	Gly Thr Gly Glu Phe	
420	425	430
Gly Gly Ser Glu Lys Leu Ile Asp Phe Ser Pro	Val Lys Ala Arg His	
435	440	445
Ala Ala Leu His Ile Ser Phe Ile Arg Phe	Gln Cys Thr Val Tyr Arg	
450	455	460
Phe Gln Val Val Thr Gly Arg Gly Ile Phe	Leu Phe His Gly His Trp	
465	470	475
Ser Leu Val Asp Ile Arg Ala Gln Gly Met	Ile Ile Leu Gln Ile Asp	
485	490	495
Leu Pro Val Gln Ala Ile Ile Pro Gly Val Arg	Val Glu Gln Gly Gln	
500	505	510
Leu Val Ser Phe Ile Gln Ser Gly Ile Ile Lys	Ile Gly Leu Leu Gln	
515	520	525
Phe Thr Arg Thr His Val Thr Val Gly His	Phe Ala Arg Cys Arg Gln	
530	535	540
Ile Gly Thr Cys Ser Glu Ala Glu Ser Arg	Tyr Phe Phe His Ala Thr	
545	550	555
Val Ala Tyr Ile Asp Glu Arg Gly Gly	Ser His Phe Val Ala Trp Pro	
565	570	575
Thr Ala Val Ala Val Val Ile Asp Ser Arg Gln	Leu Ser Ala Ser Phe	
580	585	590
Ile Ile Ile Leu Gly Gln Gly Cys Phe Ile Asp	Leu Ser Thr Val Leu	
595	600	605

Ile Arg Cys Lys Thr Gln Phe Glu Thr Ala Arg Ile Lys Ile Leu Val  
 610 615 620  
 Asn Ala Ser Thr Val Glu Pro Ser Phe Pro His Thr Thr Ala Asp Ile  
 625 630 635 640  
 Ser Ile Glu Leu Leu Ala Lys Val Ile Gly Thr Ile Ile Asp Asp  
 645 650 655  
 Ser Thr Lys Leu Phe Cys Ser Gln Leu Gly Lys Arg Val Tyr Ser Ile  
 660 665 670  
 Thr Asp Ile Ala Gly Ser Asn Gly Phe Gly Asp Phe Glu Gln Pro  
 675 680 685  
 Asp Val Pro Glu Thr Ala Val Ser Thr Pro Val Arg Ile Tyr Ile Met  
 690 695 700  
 Arg Ile Arg Gly Ile Asp Tyr Gly Glu Ser Val Phe Glu Tyr Ile Tyr  
 705 710 715 720  
 Val Ser Thr Trp Gln Ala Asp Arg Asp Phe Ala Gly Thr Ile Gly Ala  
 725 730 735  
 Arg Ser Val Gln His Asn Ile Thr Ile Ala Phe Phe Leu  
 740 745

&lt;210&gt; 6710

&lt;211&gt; 136

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6710

Val Lys Thr Glu Tyr Asn Asp Ala Leu Ala Ala Val Ser Gly Asp Asn  
 1 5 10 15  
 Ala Thr Ala Tyr Ala Asn Leu Leu Thr Ala Met Asp Asn Ala Val Lys  
 20 25 30  
 Ala Arg Val Glu Thr Leu Ile Ala Tyr Tyr Lys Ala Asp His Asn Tyr  
 35 40 45  
 Ser Val Gln Asn Thr Leu Ala Tyr Thr Leu Gln Thr Ile Ala Asp Gly  
 50 55 60  
 Leu Ala Asp Tyr Asp Gln Leu Ile Leu Val Gln Lys Gln Ala Ile Ala  
 65 70 75 80  
 Ala Ala Asp Glu Asn Ile Ala Asn Ala Ala Ser Val Val Ser Lys Glu  
 85 90 95  
 Gln Ala Ile Ala Asn Gln Glu Lys Thr Ile Ala Asp Leu Glu Asn Ser  
 100 105 110  
 Leu Ala Val Asn Glu Pro Ile Tyr Asn Asp Tyr Leu Ala Gln Ile Lys  
 115 120 125  
 Ala Leu Val Gly Asp Ser Ala Glu  
 130 135

&lt;210&gt; 6711

&lt;211&gt; 261

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6711

Lys Lys Tyr Arg Met Lys Ile Lys Arg Leu Leu Val Leu Ala Val Leu  
 1 5 10 15  
 Pro Met Leu Cys Leu Ala Val Asn Ala Gln Asn Ser Ser Lys Asp Asn  
 20 25 30  
 Thr Pro Lys Lys Gly Asp Phe Thr Val Ala Ala Thr Val Gly Tyr Asn  
 35 40 45  
 Ser Tyr Thr Ser Val Thr Ala Pro Ser Gly Leu Leu Thr Asp Tyr Glu  
 50 55 60  
 Val Arg Ala Leu Ser Thr Asn Trp Ala Asp Lys Lys Leu Met Val Gly

<210> 6712  
<211> 265  
<212> PRT  
<213> B.*fragilis*

<400> 6712  
 Lys Tyr His Val Ile Met Lys Thr Thr Phe Met Asn Val Ser Arg Gly  
 1 5 10 15  
 Val Ile Gly Ala Leu Ala Phe Ser Leu Gly Ile Ser Ser Cys Gln Ser  
 20 25 30  
 Ser Gln Ser Lys Met Thr Phe Glu Gln Glu Gly Asp Ser Leu Thr Val  
 35 40 45  
 Ile His Ile Thr Asn Pro Thr Gln Tyr Leu Leu Leu Pro Val Glu Glu  
 50 55 60  
 Lys Thr Pro Glu Ala Gln Val Cys Ile Ala Ser Asp Ser Val Pro Val  
 65 70 75 80  
 Asp Met Asp Val Arg Leu Ser Arg Glu Lys Val Asp Tyr Phe Val Pro  
 85 90 95  
 Phe Ala Leu Pro Lys Gly Glu Lys Glu Val Ala Val Arg Ile Arg His  
 100 105 110  
 Leu Pro Lys Glu Ala Leu Cys Trp Lys Glu Leu Lys Leu Ser Asp Thr  
 115 120 125  
 Phe Asp Thr Thr Asn Thr Asp Gln Tyr Arg Pro Leu Tyr His His Thr  
 130 135 140  
 Pro Leu Tyr Gly Trp Met Asn Asp Ala Asn Gly Leu Val Tyr Lys Asp  
 145 150 155 160  
 Gly Glu Tyr His Leu Phe Tyr Gln Tyr Asn Pro Tyr Gly Ser Met Trp  
 165 170 175  
 Gly Asn Met His Trp Gly His Ser Val Ser Lys Asp Leu Val His Trp  
 180 185 190  
 Glu His Leu Glu Pro Ala Leu Ala Arg Asp Thr Leu Gly His Ile Phe  
 195 200 205  
 Ser Gly Ser Ser Val Val Asp Asp Ala Asn Thr Ala Gly Tyr Gly Ala

210	215	220
Gly Ala Ile Val Ala Phe Tyr Thr Ser Ala Ser Asp Lys Asn Gly Gln		
225	230	235
Ile Gln Cys Met Ala Tyr Ser Thr Asp Asn Gly Arg Thr Phe Thr Lys		
245	250	255
Tyr Glu Lys Asn Pro Ser Ser Pro Arg		
260	265	

<210> 6713  
<211> 790  
<212> PRT  
<213> B.fragilis

<400> 6713			
Asn Lys Ser Phe Ser Trp Glu Met Gly Phe Arg Val Pro Leu Arg His			
1	5	10	15
Gln Asn Asn Leu Asn Gln Leu Lys Asn Leu Ser Thr Met Met Lys Asn			
20	25	30	
Gln Lys Arg Ala Val Cys Leu Leu Ala Cys Leu Leu Ile Ala Gly Phe			
35	40	45	
Thr Ala Ala Gln Glu Lys Lys Glu Ser Ala Gln Thr Ala Ser Gly Ser			
50	55	60	
Lys Glu Glu Gly Asn Arg Asn Val Met Leu Asn Ala Ser Ser Ala Asn			
65	70	75	80
Gly Pro Arg Glu Ile Ser Ile Gly Leu Pro Gly Gly Asp Val Asn Val			
85	90	95	
Leu Glu Asn Gly Leu Pro Val Val Tyr Thr Ser Asn Pro His Asn Val			
100	105	110	
Asn Thr His Trp Arg Gly Asp Ser Ser Leu Gly His Val Gly Leu Leu			
115	120	125	
Lys Ile Ser Glu Thr Ala Ile Thr Thr Gly Asn Ile Gly Tyr Ala Val			
130	135	140	
Asn Ser Phe Thr Gln Leu Gly Thr Glu Lys Phe Arg Gly Ile Val Asn			
145	150	155	160
Tyr Ser Thr Asn His Phe Gly Lys Gln Gln Phe Asp Ala Asn Ile Ser			
165	170	175	
Gly Gly Met Gly Lys Gly Trp Phe Tyr Ser Gly Ser Val Tyr Gln Asn			
180	185	190	
Phe Asp Pro Gly Ser Phe Lys Leu Arg Phe Thr Ser Asn Gln Asp Arg			
195	200	205	
Thr Gln Ile Tyr Lys Ala Ala Leu Thr Lys Asn Tyr Asn Glu Gly Arg			
210	215	220	
Gly Gln Leu Ser Ala Ile Tyr His Tyr Ser Asn Ser Arg Trp Pro Ser			
225	230	235	240
Asn Glu Val Thr Ser Ala Pro Phe Ile Tyr Val Gly Asp Gly Ser Val			
245	250	255	
Lys Glu Ile Pro Gly Phe Ser Leu Gly Thr Ser Ser Tyr Leu Pro Thr			
260	265	270	
Thr Gly Glu Met Ala Tyr Arg Asp Met Arg Thr Gly Glu Leu Lys Glu			
275	280	285	
Thr Asn Leu Tyr Asp Ala Thr Leu Asn Lys Gly Asn Gln Leu Thr Leu			
290	295	300	
Leu Asn Thr Tyr Thr Trp Asp Asn Gly Leu Asn Trp Lys Ile Asn Leu			
305	310	315	320
Lys Tyr Asp His Ala Leu Gly Ser Tyr Val Tyr Gln Thr Pro Met Ala			
325	330	335	
Met Glu Gln Lys Asp Ala Ser Ala Gly Tyr Tyr Leu Lys Ala Val Asp			
340	345	350	
Gly Thr Leu Lys Pro Tyr Glu Gly Tyr Val Gln Ser Arg Met Ser Cys			

355	360	365
Leu Asn Arg Gly Lys Ile Asp Glu Phe Phe Ala Thr Ser	Glu Leu Ser	
370	375	380
Arg Ser Tyr Arg Asn Thr Thr Trp Arg Ile Gly Val Asn	Glu Trp His	
385	390	395
Tyr Lys Val Asp Tyr Ala Ser Asn Thr Thr Met Tyr Asp	His Thr Val	400
405	410	415
Glu Glu Tyr Pro Glu Arg Leu Val Arg Glu Gly Asn Thr	Asp Gly Val	
420	425	430
Tyr Tyr Asp Phe Asn Lys Asn Ala Ser Glu Tyr Tyr Lys	Gly His Glu	
435	440	445
Asn Lys Leu Ala Val Tyr Ala Thr His Asp Trp Asp Ile	Ser Pro Lys	
450	455	460
Trp Asn Val Tyr Tyr Gly Ala Arg Leu Glu Trp Gln His	Leu Glu Gly	
465	470	475
Glu Asn Ala Ala Val Tyr Asp Ala Glu Gly Asn Ala Val	Gly Arg Phe	
485	490	495
Pro Asp Tyr Tyr Leu Gly Ala Val Ser Asp Lys Gly Val	Arg Ile Thr	
500	505	510
Pro Arg Leu Phe Asp Tyr Asp Trp Met Asn Met Ala Phe	Thr Ala Ala	
515	520	525
Ala Thr Tyr Lys Leu Thr Arg Glu Phe Gly Phe Thr Ala	Asp Phe Thr	
530	535	540
Tyr Asn Thr Gln Arg Pro Gly Leu Ser Asn Phe Ala Pro	Ala Thr Met	
545	550	555
Pro Asn Thr Asp Lys Ile Ser Val Pro Leu Gly Arg Ala	Gly Ile Tyr	
565	570	575
Tyr Asn Thr Asp Trp Ile Ser Leu Thr Ser Leu Phe Ser	Tyr Ile Ser	
580	585	590
Lys Thr Asn Asn Asn Ser Thr Leu Asn Leu Ile Asn Pro	Asn Asp Gln	
595	600	605
Thr Glu Ile Leu Ala Ala Pro Leu Ser Tyr Asp Ile Gln	Thr Ile Gly	
610	615	620
Trp Thr Thr Asp Ala Val Ile Lys Pro Phe Lys Gly Phe	Asn Phe His	
625	630	635
Phe Leu Phe Thr Tyr Gln Ser Pro Thr Tyr Lys Tyr Glu	Thr Ser	
645	650	655
Val Thr Phe Lys Asp Gly Thr Val Gly Glu Ile Asp Ala	Thr Gly Asn	
660	665	670
Ile Val Thr Glu Ile Pro Lys Val Leu Val Glu Leu Asp	Pro Ser Tyr	
675	680	685
Asn Ile Thr Asn Asp Leu Arg Val Trp Ala Ser Phe Arg	Tyr Phe Ser	
690	695	700
Lys Thr Tyr Ala Asn Ile Lys Asn Ala Tyr Tyr Phe Asn	Gly Arg Trp	
705	710	715
Glu Thr Phe Gly Gly Ile Asn Trp Thr Val Asn Lys His	Leu Ala Leu	
725	730	735
Ser Ala Thr Val Ile Asn Phe Leu Asn Gln Thr Gly Ala	Lys Gly Ser	
740	745	750
Ile Ala Gly Thr Glu Leu Val Asp Lys Asp Ala Ala Ser	Tyr Asn	
755	760	765
Gly His Trp Met Ala Gly Ser Tyr Ile Arg Pro Phe Thr	Val Glu Leu	
770	775	780
Ala Ala Ser Ile Arg Phe		
785	790	

&lt;210&gt; 6714

&lt;211&gt; 127

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6714

Ile	Arg	Ser	Thr	Pro	Lys	Ala	Ile	Ser	Ser	Gln	Tyr	Leu	Tyr	Gln	Ile
1				5					10					15	
Phe	Arg	Tyr	Asp	Leu	Leu	Leu	Val	Lys	Arg	Arg	Glu	Ser	Trp	Pro	His
				20				25					30		
Phe	Pro	Cys	Ser	Tyr	Tyr	Phe	Pro	Val	Val	Val	Asn	Leu	Pro	Asp	Phe
				35				40			45				
Asp	Phe	Lys	His	Gln	Leu	Pro	Ser	Leu	Asn	Tyr	Tyr	Pro	Leu	Asn	Pro
				50				55			60				
Leu	Gly	Gly	Lys	Ile	Leu	Leu	Lys	Cys	Ser	Thr	Ser	Arg	Leu	Phe	Arg
65					70				75			80			
Ser	Ser	Phe	Ala	Arg	Asn	Ile	Asn	Pro	Leu	Leu	Glu	Lys	Ser	Arg	Cys
					85				90			95			
Gln	Gln	Thr	Pro	Thr	Val	Lys	Thr	Leu	Phe	Tyr	Arg	Thr	Ala	Leu	Thr
					100				105			110			
Ile	Arg	Leu	Ala	Pro	Gly	Ser	Trp	Asn	Asn	Pro	Tyr	Thr	Leu	Cys	
					115				120			125			

&lt;210&gt; 6715

&lt;211&gt; 400

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6715

Thr	Asn	Thr	Ala	Ile	Val	Met	Asn	Thr	Thr	Glu	Tyr	Leu	Gln	Thr	Trp
1					5				10				15		
Ser	Asp	Ser	Tyr	Lys	Asn	Asp	Met	Ile	Ser	Asn	Ile	Met	Pro	Phe	Trp
					20				25			30			
Met	Lys	Tyr	Gly	Trp	Asp	Arg	Lys	Asn	Gly	Gly	Val	Tyr	Thr	Cys	Val
					35			40			45				
Asp	Arg	Asp	Gly	Gln	Leu	Met	Asp	Thr	Thr	Lys	Ser	Val	Trp	Phe	Gln
					50			55			60				
Gly	Arg	Phe	Ala	Phe	Thr	Cys	Ser	Tyr	Ala	Tyr	Asn	His	Ile	Glu	Arg
65					70				75			80			
Asn	Thr	Glu	Trp	Leu	Ala	Ala	Lys	Ser	Thr	Leu	Asp	Phe	Ile	Glu	
					85				90			95			
Ala	His	Cys	Phe	Asp	Thr	Asp	Gly	Arg	Met	Phe	Phe	Glu	Val	Thr	Glu
					100			105			110				
Thr	Gly	Leu	Pro	Ile	Arg	Lys	Arg	Arg	Tyr	Val	Phe	Ser	Glu	Thr	Phe
					115			120			125				
Ala	Ala	Ile	Ala	Met	Ser	Glu	Tyr	Ala	Ile	Ala	Ser	Gly	Asp	His	Ser
					130			135			140				
Tyr	Ala	Val	Lys	Ala	Leu	Lys	Leu	Phe	Asn	Ile	Arg	His	Phe	Leu	
145					150				155			160			
Ser	Thr	Pro	Gly	Ile	Leu	Glu	Pro	Lys	Tyr	Cys	Glu	Arg	Val	Gln	Met
					165				170			175			
Lys	Gly	His	Ser	Ile	Ile	Met	Ile	Leu	Ile	Asn	Val	Ala	Ser	Arg	Ile
					180			185			190				
Arg	Ala	Ala	Ile	Asn	Asp	Pro	Val	Leu	Asp	Arg	Gln	Ile	Glu	Glu	Ser
					195			200			205				
Ile	Ala	Ile	Leu	Arg	Lys	Asp	Phe	Met	His	Pro	Glu	Phe	Lys	Ala	Leu
					210			215			220				
Leu	Glu	Thr	Val	Gly	Pro	Asn	Gly	Glu	Phe	Ile	Asp	Thr	Asn	Ala	Thr
225					230				235			240			
Arg	Thr	Ile	Asn	Pro	Gly	His	Cys	Ile	Glu	Thr	Ser	Trp	Phe	Ile	Leu
					245			250			255				
Glu	Glu	Ala	Lys	Asn	Arg	Asn	Trp	Asp	Lys	Glu	Met	Val	Asp	Thr	Ala

260	265	270
Leu Thr Ile Leu Asp Trp Ser Trp Glu Trp Gly Trp Asp Lys	Glu Tyr	
275	280	285
Gly Gly Ile Ile Asn Phe Arg Asp Cys Arg Asn Leu Pro Ser Gln	Asp	
290	295	300
Tyr Ala His Asp Met Lys Phe Trp Trp Pro Gln Thr Glu Ala Ile	Ile	
305	310	315
Ala Thr Leu Tyr Ala Tyr Gln Ala Thr Lys Asn Glu Lys Tyr Leu	Ala	
325	330	335
Met His Lys Gln Ile Ser Asp Trp Thr Tyr Ala His Phe Pro Asp	Ala	
340	345	350
Glu Phe Gly Glu Trp Tyr Gly Tyr Leu His Arg Asp Gly Thr Ile	Ser	
355	360	365
Gln Pro Ala Lys Gly Asn Leu Phe Lys Gly Pro Phe His Ile Pro	Arg	
370	375	380
Met Met Thr Lys Gly Tyr Ala Leu Cys Gln Glu Leu Leu Ser Glu	Lys	
385	390	400

&lt;210&gt; 6716

&lt;211&gt; 73

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6716

Arg Pro Arg Glu Asn Asn Arg Ser Met Gly Asn Gly Ala Met Thr Pro			
1	5	10	15
Ser Phe Leu Leu Lys Val Gly Arg Ile Glu Ile Ser Gly Lys Gly Ile			
20	25	30	
Val Lys Lys Ser Pro Trp Gly Cys Cys Gly Ser Ile Leu Ser Asn Met			
35	40	45	
Tyr Gln Ile Arg Asp Phe Asn Gly Ala Leu Leu Thr Met Val Val Phe			
50	55	60	
Leu Glu Thr Val Asp Gly Arg Tyr Ser			
65	70		

&lt;210&gt; 6717

&lt;211&gt; 417

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6717

Pro Leu Ile Phe Ile Met Lys Asn Ser Lys Ile Tyr Pro Trp Ile Val			
1	5	10	15
Val Ala Leu Leu Trp Gly Val Ala Leu Leu Asn Tyr Met Asp Arg Gln			
20	25	30	
Met Leu Ser Thr Met Lys Asp Ala Met Gln Val Asp Ile Val Glu Leu			
35	40	45	
Gln Ser Ala Thr Asn Phe Gly Arg Leu Met Ala Val Phe Leu Trp Ile			
50	55	60	
Tyr Gly Leu Met Ser Pro Ile Ser Gly Met Ile Ala Asp Arg Leu Asn			
65	70	75	80
Arg Lys Trp Leu Ile Val Gly Ser Leu Phe Val Trp Ser Phe Val Thr			
85	90	95	
Tyr Leu Met Gly Ile Ala Glu Thr Phe Asn Gln Val Phe Trp Leu Arg			
100	105	110	
Ala Leu Met Gly Val Ser Glu Ala Leu Tyr Ile Pro Ala Gly Leu Ser			
115	120	125	
Leu Ile Ala Asp Tyr His Thr Glu Lys Ser Arg Ser Leu Ala Val Gly			
130	135	140	

Ile His Met Thr Gly Leu Tyr Thr Gly Gln Ala Ile Gly Gly Phe Gly  
 145 150 155 160  
 Ala Thr Val Ala Ala Ala Phe Ser Trp His Thr Thr Phe His Trp Phe  
 165 170 175  
 Gly Ile Ile Gly Ile Ala Tyr Ala Leu Val Leu Val Leu Phe Leu Lys  
 180 185 190  
 Asp Lys Lys Glu His Val Lys Thr Glu Arg Leu Lys Pro Ser Ser Lys  
 195 200 205  
 Asn Gly Glu Lys Ala Gly Leu Phe Lys Gly Leu Ser Leu Leu Phe Ser  
 210 215 220  
 Asn Ile Ala Phe Trp Val Ile Leu Leu Tyr Phe Ala Ala Pro Ser Leu  
 225 230 235 240  
 Pro Gly Trp Ala Thr Lys Asn Trp Leu Pro Thr Leu Phe Ala Glu Asn  
 245 250 255  
 Leu Asp Ile Pro Met Ser Gln Ala Gly Pro Met Ser Thr Ile Thr Ile  
 260 265 270  
 Ala Leu Ser Ser Phe Ile Gly Val Ile Leu Gly Gly Thr Leu Ser Asp  
 275 280 285  
 Lys Trp Val Gln Lys Asn Ile Arg Gly Arg Val Tyr Thr Gly Ala Ile  
 290 295 300  
 Gly Leu Gly Leu Thr Ile Pro Ser Leu Leu Leu Gly Phe Gly His  
 305 310 315 320  
 Ser Phe Val Ala Val Val Gly Ala Gly Leu Leu Phe Gly Ile Gly Tyr  
 325 330 335  
 Gly Ile Phe Asp Ala Asn Asn Met Pro Ile Leu Cys Gln Phe Val Ser  
 340 345 350  
 Ser Lys Tyr Arg Ala Thr Ala Tyr Gly Ile Met Asn Met Thr Gly Val  
 355 360 365  
 Phe Ala Gly Ala Phe Ile Thr Asp Leu Leu Gly Lys Trp Thr Asp Gly  
 370 375 380  
 Gly Asn Leu Gly Leu Gly Phe Ala Met Leu Ala Ile Ile Val Phe Ile  
 385 390 395 400  
 Ala Leu Ala Val Gln Leu Tyr Phe Leu Arg Pro Lys Thr Asp Asn Met  
 405 410 415  
 Glu

<210> 6718  
<211> 149  
<212> PRT  
<213> B.fragilis

<400> 6718  
 Thr Val Val Ile Pro Ser Phe Ala Glu Ile Lys Tyr Thr Phe Glu Ser  
 1 5 10 15  
 Met Tyr Glu Tyr Asn Gln Cys Arg Met Tyr Lys Gly Gly Lys Phe Asp  
 20 25 30  
 Met Leu His Gly Gln Asp Lys Thr Ile Leu Pro Cys Leu Ala Met Gly  
 35 40 45  
 Gly Pro Gln Gly Gly Ile Gly Gly Thr Ala Asn Tyr Asn Gly Val Asn  
 50 55 60  
 Leu Val Gly Ile Ile Glu Ala Trp Lys Ala Gly Asp Leu Glu Lys Ala  
 65 70 75 80  
 Arg Glu Leu Gln Asn Phe Ser Gln Glu Val Ile Asn Val Ile Cys His  
 85 90 95  
 Phe Arg Glu Asn Ile Val Gly Gly Lys Arg Ile Met Lys Leu Ile Gly  
 100 105 110  
 Leu Asp Leu Gly Lys Asn Arg Thr Pro Phe Gln Asn Met Thr Asp Asp  
 115 120 125

Glu Glu Val Arg Met Lys Pro Glu Pro Gln Ala Ile His Phe Phe Asp  
 130 135 140  
 Arg Cys Asn Lys Phe  
 145

<210> 6719  
 <211> 150  
 <212> PRT  
 <213> B.fragilis

<400> 6719  
 Lys Glu Met Ile Val Ser Asn Leu Gln Asn Ser Gln Arg Val Glu Gly  
 1 5 10 15  
 Leu His Pro Leu Phe Lys Thr Leu Phe Asp Tyr Val Lys Thr His Asp  
 20 25 30  
 Leu Phe His Ala Glu Leu Gly Arg Ile Glu Ile Asp Gly Asp Asn Leu  
 35 40 45  
 Phe Ile Asn Asn Val Asn Pro Glu Cys Val Ala Arg Asp Lys Gln Val  
 50 55 60  
 Leu Glu Leu His Arg Asp Tyr Ile Asp Val His Ile Leu Leu Glu Gly  
 65 70 75 80  
 Thr Glu Thr Ile Gly Trp Lys Ala Ile Glu Asp Leu Lys Asp Glu Val  
 85 90 95  
 Lys Pro Tyr Glu Ala Asn Gly Asp Cys Ala Leu Tyr Ser Asp Ala Pro  
 100 105 110  
 Thr Thr Phe Val Asp Leu Leu Pro Gly Gln Phe Met Ile Val Tyr Pro  
 115 120 125  
 Glu Asp Pro His Ala Pro Leu Ile Gly Gln Gly Lys Ile Arg Lys Leu  
 130 135 140  
 Ile Ala Lys Val Lys Leu  
 145 150

<210> 6720  
 <211> 698  
 <212> PRT  
 <213> B.fragilis

<220>  
 <221> UNSURE  
 <222> (668)  
 <223> Identity of amino acid sequences at the above locations are unknown.

<400> 6720  
 Thr Ser Leu Leu Thr Gln Lys Ala Ile Leu Met Lys Lys Thr Ile  
 1 5 10 15  
 Phe Leu Ile Leu Cys Ile Leu Cys Ser Leu Gly Ala Met Ala Gln Lys  
 20 25 30  
 Lys Ser Ile Thr Gly Val Val Thr Asp Ala Ser Gly Glu Ser Val Ile  
 35 40 45  
 Gly Ala Ser Val Val Glu Val Gly Thr Thr Asn Gly Val Ile Thr Asp  
 50 55 60  
 Ile Asp Gly Lys Phe Thr Leu Ser Val Asp Pro Asn Gly Lys Ile Arg  
 65 70 75 80  
 Val Ser Tyr Ile Gly Tyr Gln Pro Gln Val Leu Asp Val Lys Gly Lys  
 85 90 95  
 Asn Ser Phe Asn Ile Lys Leu Lys Glu Asp Ser Glu Met Leu Glu Glu  
 100 105 110  
 Val Val Val Thr Gly Tyr Gly Gly Lys Gln Leu Arg Thr Lys Val Thr  
 115 120 125

Asn Ser Ile Ala Lys Val Lys Asp Glu Ala Leu Lys Val Gly Leu Phe  
 130 135 140  
 Ser Asn Pro Ala Gln Ala Leu Ser Gly Ala Val Ala Gly Leu Lys Val  
 145 150 155 160  
 Thr Gln Ala Ser Gly Ser Pro Gly Ala Ala Pro Lys Val Thr Leu Arg  
 165 170 175  
 Gly Gly Thr Asn Phe Asp Gly Ser Gly Asp Pro Leu Val Ile Val Asp  
 180 185 190  
 Gly Gln Leu Arg Asp Gly Met Gln Asp Ile Asn Pro Glu Asp Ile Glu  
 195 200 205  
 Ser Met Glu Val Leu Lys Asp Ala Gly Ala Thr Ala Ile Tyr Gly Ala  
 210 215 220  
 Arg Ala Ser Asn Gly Val Ile Leu Ile Thr Thr Lys Thr Gly Lys Glu  
 225 230 235 240  
 Gly Arg Arg Glu Ile Asn Phe Lys Ala Lys Met Gly Leu Ser Tyr Val  
 245 250 255  
 Asn Asn Pro Tyr Asp Phe Leu Gly Ala Lys Asp Tyr Ile Asn Val Leu  
 260 265 270  
 Arg Thr Gly Tyr Ser Lys Ser Gly Phe Thr Thr Ser Asp Gly Glu Tyr  
 275 280 285  
 Val Ser Ile Ala Pro Leu Gly Asn Leu Thr Ser Ala Ser Pro Phe Gly  
 290 295 300  
 Thr Gly Asn Thr Leu Asn Asp Lys Thr Ile Trp Asn Ile Met Asn Lys  
 305 310 315 320  
 Thr Ala Asp Asn Ala Tyr Leu Leu Gln Lys Gly Trp Gln Glu Met Pro  
 325 330 335  
 Asp Pro Leu Asp Pro Ser Lys Thr Ile Leu Tyr Lys Asp Thr Asn Pro  
 340 345 350  
 Ala Asp Tyr Asn Leu Asn Asn Pro Ala Ile Ser Gln Asp Tyr Asn Ile  
 355 360 365  
 Asn Met Ser Gly Gly Asn Asp Lys Gly Thr Tyr Ala Gly Leu Gly  
 370 375 380  
 Tyr Asn Arg Gln Glu Gly Leu Pro Ile Lys Thr Phe Tyr Glu Arg Tyr  
 385 390 395 400  
 Ser Phe Val Leu Asn Ala Ser Tyr Lys Ile Thr Asp Trp Leu Thr Ser  
 405 410 415  
 Ser Ser Asn Phe Asn Tyr Asn Arg Ala Asn Trp Lys Asn Met Pro Gly  
 420 425 430  
 Ser Gln Thr Ser Glu Gly Asn Tyr Phe Gly Arg Ile Met Ser Thr Pro  
 435 440 445  
 Pro Thr Val Arg Phe Gln Asp Glu Asp Gly Asn Pro Thr Leu Gly Pro  
 450 455 460  
 Val Ala Gly Asp Gly Asn Gln Asn Tyr Gln Pro Asp Lys Trp Trp Asn  
 465 470 475 480  
 Phe Asn Gln Ser Asp Lys Phe Thr Met Val Gln Ala Phe Gln Ile Asp  
 485 490 495  
 Ile Leu Lys Asn Leu Ser Val Lys Gly Thr Ala Asn Trp Tyr Tyr Ser  
 500 505 510  
 Glu Ser Leu Ala Glu Ser Phe Thr Arg Asp Tyr Glu Asn Thr Pro Gly  
 515 520 525  
 Gln Phe Val Arg Thr Arg Ser Ser Ser Ala Ser Phe Ser Arg Asp Phe  
 530 535 540  
 Ser Gln Thr Tyr Asn Val Val Leu Asn Tyr Asn Gln Thr Phe Ala Lys  
 545 550 555 560  
 Asp His Asn Val Ala Val Met Leu Gly Met Glu Tyr Phe Asp Arg Tyr  
 565 570 575  
 Ser Arg Ser Phe Ser Ala Ser Gly Ser Gly Ala Pro Thr Asp Asp Phe  
 580 585 590  
 Ala Asp Leu Ser Leu Thr Asp Asn Gly Glu Gly Lys Arg Ser Ile Asp

595	600	605
Ser Gly His Ser Asp Tyr Arg Ile Leu Ser Tyr Phe Gly Arg Leu Asn		
- 610	615	620
Tyr Asp Tyr Lys Gly Arg Tyr Leu Leu Ser Ala Val Phe Arg Gln Asp		
625	630	635
Gly Tyr Ser Ser Leu Leu Gly Asp Asn Arg Trp Gly Phe Pro Gly		
645	650	655
Val Ser Ala Gly Trp Ile Phe Gly Gln Glu Asn Xaa Val Lys Asn Ala		
660	665	670
Leu Pro Phe Leu Ser Phe Gly Lys Leu Arg Ala Ser Tyr Gly Val Asn		
675	680	685
Gly Asn Ser Thr Gly Ile Gly Ala Ser Ser		
690	695	

&lt;210&gt; 6721

&lt;211&gt; 73

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6721

Ser Leu Arg Ser Ile Gly Leu Lys Pro Arg Pro Leu Ser Phe Glu Thr			
1	5	10	15
Asn Gly Thr Leu Val Leu Lys Val Phe Ser Arg Trp Tyr Asn Thr Ile			
20	25	30	
Tyr Gln His Ile Val Ser Glu Thr Phe Ala Lys Ala Gly Ser Ser Val			
35	40	45	
Arg Ile Leu Ile Thr Asp Lys Lys Asn Tyr Lys Pro Thr Ser Glu Arg			
50	55	60	
Cys Val Glu Thr Leu Phe Thr Thr Glu			
65	70		

&lt;210&gt; 6722

&lt;211&gt; 329

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6722

Arg Lys Asn Lys Lys Met Gly Leu Phe Ile Lys Lys Pro Phe Glu Ala			
1	5	10	15
Leu Leu Ala Glu Ala Asn Ala Ser Gly Ser Lys Ser Leu Lys Arg Val			
20	25	30	
Leu Gly Pro Trp Ser Leu Val Ala Leu Gly Val Gly Val Ile Ile Gly			
35	40	45	
Ala Gly Leu Phe Ser Ile Thr Gly Thr Val Ala Ala Gly Tyr Thr Gly			
50	55	60	
Pro Ala Ile Thr Leu Ser Phe Ala Ile Ala Ala Leu Gly Cys Cys Phe			
65	70	75	80
Ala Gly Leu Cys Tyr Ala Glu Phe Ala Ser Met Ile Pro Val Ala Gly			
85	90	95	
Ser Ala Tyr Thr Tyr Ser Tyr Ala Thr Met Gly Glu Leu Ile Ala Trp			
100	105	110	
Ile Ile Gly Trp Asp Leu Val Leu Glu Tyr Thr Val Ala Ala Thr Thr			
115	120	125	
Val Ser Ile Ser Trp Ser Arg Tyr Leu Val Val Phe Leu Glu Gly Leu			
130	135	140	
Asp Ile His Leu Pro Gln Ala Leu Thr Ala Cys Pro Trp Asp Gly Gly			
145	150	155	160
Ile Val Asn Ile Pro Ala Phe Leu Ile Val Val Leu Met Ser Ile Phe			
165	170	175	

Leu Ile Arg Gly Thr Glu Gly Ser Ser Ile Phe Asn Gly Ile Ile Val  
     180                     185                     190  
 Phe Leu Lys Val Ser Val Ile Ala Ile Phe Val Val Leu Arg Trp Lys  
     195                     200                     205  
 Tyr Ile Asn Ala Asp Asn Tyr Thr Pro Tyr Ile Pro Ala Asn Thr Gly  
     210                     215                     220  
 Thr Leu Gly Glu Tyr Gly Leu Ser Gly Val Leu Arg Gly Ala Ala Ile  
     225                     230                     235                     240  
 Val Phe Phe Ala Phe Leu Gly Phe Asp Ala Val Ser Thr Ala Ala Gln  
     245                     250                     255  
 Glu Thr Lys Asn Ser Glu Thr Glu Tyr Ala Asp Arg Tyr Ser Gly Ile  
     260                     265                     270  
 Thr Leu Gly Met Tyr Arg Thr Leu Tyr Ala Cys Cys Pro Arg Asn Asp  
     275                     280                     285  
 Arg Ser Ser Pro Leu Ile Pro Asn Phe Asn Gly Gln Lys Gly Ile Ala  
     290                     295                     300  
 Pro Val Ala Ile Ala Ile Arg Thr His Gly Thr Cys Arg Cys Asn Arg  
     305                     310                     315                     320  
 Ala Ser Phe Thr Arg Ile Ile Pro Trp  
     325

&lt;210&gt; 6723

&lt;211&gt; 116

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6723

Lys Trp Ile Glu Glu Ala Arg Ala Leu Gly Asp Thr Pro Glu Glu Lys  
   1                      5                     10                     15  
 Glu Leu Tyr Glu Trp Asn Ala Arg Val Gln Ile Thr Thr Trp Gly Asn  
   20                     25                     30  
 Arg Asn Ala Ala Asp Tyr Gly Gly Leu Arg Asp Tyr Ala His Lys Glu  
   35                     40                     45  
 Trp Asn Gly Leu Leu Lys Asp Phe Tyr Tyr Met Arg Trp Lys Leu Tyr  
   50                     55                     60  
 Phe Asp Phe Leu Ser Gln Arg Ile Glu Gly Lys Thr Pro Ala Glu Ile  
   65                     70                     75                     80  
 Asp Phe Tyr Ala Ile Glu Glu Pro Trp Thr Lys Ala Ala Asn Pro Tyr  
   85                     90                     95  
 Ser Ala Glu Ala Glu Gly Asp Cys Ile Glu Val Ala Lys Gln Val Met  
   100                    105                     110  
 Gln Ala Val Glu  
   115

&lt;210&gt; 6724

&lt;211&gt; 202

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6724

Ala Met Thr Asp Tyr Phe Pro Pro Phe Ser His Ile Asn Glu Lys  
   1                      5                     10                     15  
 Phe Arg Thr Pro Ala Arg Ser Asn Leu Leu Phe Met Leu Ile Val Gly  
   20                     25                     30  
 Leu Leu Ala Ala Phe Val Pro Ala Arg Leu Ala Gly Glu Met Thr Ser  
   35                     40                     45  
 Ile Gly Thr Leu Met Ala Phe Thr Leu Val Cys Ala Ala Val Leu Val  
   50                     55                     60  
 Val Arg Lys Thr Met Pro Asn Val Pro Arg Ser Phe Lys Thr Pro Phe

65	70	75	80
Val Pro Leu Val Pro Ile Leu Gly Ile Leu		Thr Cys Leu Cys	Met Met
85		90	95
Leu Phe Leu Pro Ala Asp Thr Trp Ile Arg Leu Val Leu		Trp Met Leu	
100		105	110
Ile Gly Leu Asp Ile Tyr Val Gly Tyr Gly Met Lys His Ser Lys Leu			
115		120	125
Glu His Gly Val Lys Asn Arg Arg Gly Gln Ser Ala Leu Asn Met Ile			
130		135	140
Gly Ile Ala Leu Ser Leu Leu Cys Val Ile Thr Gly Leu Trp His Gln			
145		150	160
Gln Thr Val Gly Trp Asn Glu Ser Lys Ile Leu Leu Ile Ile Ser Phe			
165		170	175
Val Phe Ala Phe Thr His Cys Ala Tyr Tyr Met Met Arg Ile Trp Lys			
180		185	190
Gly Thr Thr Lys Gln Thr Asn Asp Asn Gly			
195		200	

&lt;210&gt; 6725

&lt;211&gt; 432

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6725

Thr Leu Cys Cys Ala Pro Phe Ala Met Gln Ala Gln Gln Pro Gln Ile			
1	5	10	15
Tyr Thr Leu Lys Ser Cys Leu Glu Tyr Gly Leu Gln Asn Asn Tyr Ser			
20		25	30
Leu Gln Ile Val Arg Asn Glu Glu Gln Val Ser Arg Asn Asn Ala Thr			
35		40	45
Pro Gly Asn Ala Gly Tyr Leu Pro Thr Leu Asp Phe Thr Ala Gly Tyr			
50		55	60
Lys Gly Thr Val Asp Asn Thr Asn Thr Lys Val Arg Ala Thr Gly Glu			
65		70	75
Ser Val Lys Glu Asn Gly Val Phe Asp Gln Thr Leu Asn Val Gly Leu			
85		90	95
Asn Leu Asn Trp Thr Ile Phe Asp Gly Phe Asn Ile Thr Ala Asn Tyr			
100		105	110
Gln Lys Leu Lys Glu Leu Gln Leu Gln Gly Glu Thr Asn Thr Arg Ile			
115		120	125
Ala Ile Glu Asp Leu Ile Ala Asn Leu Ala Ala Glu Tyr Tyr Asn Tyr			
130		135	140
Val Gln Gln Lys Ile Arg Leu Gln Asn Phe Arg Tyr Ala Val Ser Leu			
145		150	160
Ser Lys Glu Arg Leu Arg Ile Val Glu Glu Arg Tyr His Ile Gly Asn			
165		170	175
Phe Ser Arg Leu Asp Tyr Gln Gln Ala Lys Val Asp Phe Asn Ala Asp			
180		185	190
Ser Ala Lys Tyr Met Lys Gln Gln Glu Leu Leu His Thr Ser Arg Ile			
195		200	205
Gln Leu Asn Glu Leu Met Ala Asn Glu Asp Val Asp Gln Pro Leu Val			
210		215	220
Ile Glu Asp Ser Ile Ile Lys Val Asn Ala Gly Leu Arg Phe Glu Glu			
225		230	240
Leu Trp Asn Ala Thr Leu Leu Thr Asn Ala Ser Leu Leu Lys Ala Glu			
245		250	255
Gln Asn Asn Thr Leu Ala Met Leu Asp Tyr Lys Lys Val Asn Ser Arg			
260		265	270
Asn Tyr Pro Tyr Leu Lys Met Asn Thr Gly Tyr Gly Tyr Thr Phe Asn			

275	280	285
Lys Tyr Asp Ile Ala Ala Asn Ser Gln Arg Gly Asn	Leu Gly Ala Asn	
290	295	300
Phe Gly Val Thr Val Gly Phe Asn Ile Phe Asp Gly Asn	Arg Arg Arg	
305	310	315
Glu Lys Asn Asn Ala Arg Ile Ala Ile Lys Asn Ala Arg	Leu Gln Arg	
325	330	335
Glu Gln Leu Glu Gln Gly Leu Lys Ala Asp Leu Ser Asn	Leu Trp Gln	
340	345	350
Ala Tyr Gln Asn Asn Leu Gln Met Leu Lys Leu Glu Arg	Gln Asn Leu	
355	360	365
Val Ala Ala Lys Glu Asn His Glu Ile Ala Met Glu Arg	Tyr Met Leu	
370	375	380
Gly Asn Leu Ser Gly Ile Glu Met Arg Glu Ala Gln Lys	Ser Leu Leu	
385	390	395
Asp Ala Glu Glu Arg Ile Leu Ser Ala Glu Tyr Asp Thr	Lys Leu Cys	
405	410	415
Glu Ile Ser Leu Leu Gln Ile Ser Gly Lys Ile Thr Lys	Tyr Leu Glu	
420	425	430

&lt;210&gt; 6726

&lt;211&gt; 446

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6726

Arg Pro Val Trp Arg Asn Val Leu Asp Lys Leu Gly	Tyr Thr Lys Thr		
1	5	10	15
Glu Ile Asn Glu Phe Ile Ser Gly Pro Gly Phe	Phe Ala Trp Trp Val		
20	25	30	
Met Asn Asn Leu Gly Gly Trp Gly Pro Asn Pro	Asp Ser Trp Tyr		
35	40	45	
Thr Arg Gln Ile Ala Leu Gln Lys Lys Ile Leu Lys	Arg Met Arg Glu		
50	55	60	
Tyr Gly Ile Glu Pro Val Leu Pro Gly Tyr Cys	Gly Met Val Pro His		
65	70	75	80
Asn Ala Lys Glu Lys Leu Gly Leu Asn Val Ser Asp	Pro Gly Thr Trp		
85	90	95	
Cys Gly Tyr Arg Arg Pro Ala Phe Leu Gln Pro Ser	Asp Pro Arg Phe		
100	105	110	
Glu Glu Ile Ser Ser Leu Tyr Tyr Lys Glu Leu Glu	Lys Leu Tyr Gly		
115	120	125	
Lys Ala Asn Phe Tyr Ser Met Asp Pro Phe His	Glu Gly Gly Asn Thr		
130	135	140	
Ala Gly Val Asp Leu Asp Ala Ala Gly Lys Ala Val	Met Lys Ala Met		
145	150	155	160
Lys Lys Ala Asn Pro Lys Ala Val Trp Val Ala Gln	Ala Trp Gln Ala		
165	170	175	
Asn Pro Arg Pro Lys Met Ile Glu Asn Leu Lys Ala	Gly Asp Leu Leu		
180	185	190	
Ile Leu Asp Leu Thr Ser Glu Cys Arg Pro Gln Trp	Gly Asp Ser Thr		
195	200	205	
Ser Glu Trp Tyr Arg Lys Asn Gly Tyr Gly Gln His	Asp Trp Ile Tyr		
210	215	220	
Cys Met Leu Leu Asn Tyr Gly Gly Asn Val Gly	Leu His Gly Lys Met		
225	230	235	240
Asp Asn Val Ile Asp Asn Phe Tyr Leu Ala Lys Ala	Asp Pro His Ala		
245	250	255	
Ser Ala Thr Leu Lys Gly Val Gly Met Thr Pro Glu	Gly Ile Glu Asn		

260	265	270
Asn Pro Val Met Tyr Glu Leu Val Met	Glu Leu Pro Trp Arg Pro Asp	
275	280	285
Arg Phe Thr Lys Glu Glu Trp Leu Lys Glu Tyr Val Lys Ala Arg Tyr		
290	295	300
Gly Val Asp Asp Pro Val Val Gln Ala Ala Trp Thr Asn Leu Ala Asn		
305	310	315
Ser Ile Tyr Asn Ser Pro Lys Asn Leu Thr Gln Gln Gly Thr His Glu		
325	330	335
Ser Val Phe Cys Ala Arg Pro Ala Glu Asp Val Tyr Gln Val Ser Ser		
340	345	350
Trp Ser Glu Met Lys Asp Tyr Tyr Arg Pro Gln Glu Val Ile Glu Ala		
355	360	365
Ala Arg Leu Met Val Ser Val Ala Asp Arg Phe Lys Gly Asn Asn Asn		
370	375	380
Phe Glu Tyr Asp Leu Val Asp Ile Val Arg Gln Ala Leu Ala Glu Lys		
385	390	395
Gly Arg Leu Met Gln Lys Ala Val Thr Ala Ala Tyr Arg Ala Gly Asp		
405	410	415
Lys Gln Leu Phe Ala Leu Ala Ser Gly Lys Phe Leu Asp Leu Ile Leu		
420	425	430
Leu Gln Asp Lys Leu Leu Gly Thr Arg Pro Glu Phe Arg Val		
435	440	445

&lt;210&gt; 6727

&lt;211&gt; 301

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6727

Lys Cys Ile Ser Met Lys Pro Tyr His Ile Asn Lys Lys Gln Ile Leu		
1	5	10
Ile Met Gly Cys Leu Gly Met Phe Pro Leu Phe Ser Ser Ala Gln Asp		
20	25	30
Ile Leu Ser Thr Ser Gly Thr Ser Arg Trp Asp Tyr Ser Asn Ser Arg		
35	40	45
Val Glu Arg Glu Pro Gly Arg Asp Ala Leu Asp Ile Thr Phe Ser Val		
50	55	60
Phe Pro Leu Ala Gly Leu Gly Ser Gln Glu Val Ala Tyr Leu Phe Pro		
65	70	75
Val Tyr Val Ser Ala Asp Gly Arg Asp Ser Val Arg Leu Glu Pro Val		
85	90	95
Cys Val Ala Gly Lys Arg Arg Tyr Lys Val Ile Lys Arg Arg Lys Ala		
100	105	110
Leu Gly Asn Leu Lys Pro Gly Asn Pro Gly Ser Gly Glu Val Arg Ser		
115	120	125
Ala Lys Val Leu Glu Ser Ser Gly Leu Thr Val Lys Arg Ser Val Pro		
130	135	140
Phe Glu Arg Trp Met Ala Asp Gly Arg Leu Val Val Arg Glu Val Ser		
145	150	155
Tyr Gly Cys Ala Glu Cys Gly Thr Asn Glu Ser Glu Asp Ile Ala Phe		
165	170	175
Gln Ala Gly Ile Pro Leu Phe Gly Glu Lys Asp Tyr Ala Tyr Ser Phe		
180	185	190
Ile Glu Pro Glu Lys Val Met Ile Lys Cys Tyr Lys Asp Ser Phe Asp		
195	200	205
Cys Lys Val Val Phe Pro Val Ala Arg His Asp Leu Gln Glu Asp Phe		
210	215	220
Ala Gly Asn Ala Gln Glu Leu Asp Ser Leu Lys Lys Phe Leu Ser Glu		

225	230	235	240
Asn Met Asn Ile Gln Gly Thr Ser Leu Lys Glu Val His Ile Lys Gly			
245	250	255	
Tyr Ala Ser Pro Glu Gly Ser Phe Asp Tyr Asn Arg Ser Leu Ala Gln			
260	265	270	
Arg Arg Thr Gln Thr Leu Ser Asp Tyr Ile Ser Arg Gln Tyr Pro Ala			
275	280	285	
Leu Ser Ser Pro Arg Gly Trp Lys Asn Pro Arg Trp Arg			
290	295	300	

&lt;210&gt; 6728

&lt;211&gt; 72

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6728

Leu Thr Gly Pro Asp Arg Glu Arg Tyr Gln Leu Lys Phe Phe Ser Ser			
1	5	10	15
Arg Leu Asp Asp Gly Arg Arg Leu Ser Thr Pro Lys Glu Ala Phe Thr			
20	25	30	
Thr Asp Asn Phe Thr Ile Pro Gly Cys Phe Cys Lys Ser Arg Leu Gly			
35	40	45	
Ala Arg Gly Gly Ile Ile Gln Glu Lys Lys Gly Thr Pro Tyr Leu Ala			
50	55	60	
Asn Leu Ser Tyr Thr Val Phe Asn			
65	70		

&lt;210&gt; 6729

&lt;211&gt; 999

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6729

Phe Met Asn Thr Leu Gln Lys Thr Ala Gly Ala Ile Leu Ser Leu Ser			
1	5	10	15
Leu Leu Cys Gly Met Gln Val Tyr Ala Phe Pro Asp Tyr Pro Ser Leu			
20	25	30	
Arg Gly Gln Ile Ile Glu Gln Ser Asp Ile Cys Gln Gly Val Val Lys			
35	40	45	
Asp Ala Asn Gly Glu Ser Ile Ile Gly Ala Ser Val Leu Val Lys Gly			
50	55	60	
Thr Thr Asn Gly Ser Ile Thr Gly Leu Asp Gly Asp Phe Ser Leu Arg			
65	70	75	80
Asn Val Lys Lys Gly Asp Ile Ile Val Val Ser Tyr Val Gly Tyr Gln			
85	90	95	
Ser Gln Glu Ile Ala Trp Thr Gly Glu Pro Leu Asn Ile Val Leu Lys			
100	105	110	
Glu Asp Ala Glu Val Leu Asp Glu Val Val Val Ile Gly Tyr Gly Ala			
115	120	125	
Val Arg Lys Ala Asp Met Ala Gly Ser Val Ala Val Leu Asp Asn Lys			
130	135	140	
Asn Phe Lys Asp Gln Pro Ile Thr Gln Val Ala Asp Ala Leu Gln Gly			
145	150	155	160
Arg Val Ser Gly Val His Val Glu Asn Ser Gly Val Pro Gly Gly Ser			
165	170	175	
Val Lys Ile Arg Ile Arg Gly Ala Asn Ser Ile Ser Lys Ser Asn Asp			
180	185	190	
Pro Leu Tyr Val Val Asp Gly Ile Val Arg Glu Ser Gly Leu Asp Gly			
195	200	205	

Ile Asn Pro Glu Asp Ile Arg Ser Met Gln Val Leu Lys Asp Ala Ser  
 210 215 220  
 Ser Thr Ala Ile Tyr Gly Ser Arg Gly Ser Asn Gly Val Val Leu Ile  
 225 230 235 240  
 Thr Thr Lys Ile Gly Lys Ala Gly Val Arg Glu Ile Met Phe Asp Ala  
 245 250 255  
 Ser Val Gly Val Ser Asn Val Tyr Lys Arg Tyr Asp Ile Leu Gly Ala  
 260 265 270  
 Tyr Asp Tyr Ala Leu Ala Leu Lys Glu Val Lys Gly Ile Asp Phe Ser  
 275 280 285  
 Asn Glu Glu Met Gln Ser Tyr Gln Asn Gly Thr Gly Gly Ile Asp Trp  
 290 295 300  
 Gln Asp Glu Ile Phe Arg Thr Gly Ile Thr Gln Asn Tyr Lys Leu Ala  
 305 310 315 320  
 Leu Ser Asn Gly Ser Glu Lys Thr Gln Tyr Tyr Ile Ser Ala Asn Tyr  
 325 330 335  
 Met Ser Gln Glu Gly Val Val Ile Glu Ser Lys Asn Glu Arg Tyr Gln  
 340 345 350  
 Ala Lys Ala Asn Leu Ser Ser Gln Leu Thr Asp Trp Leu His Ile Thr  
 355 360 365  
 Ala Asp Ile Asn Ala Ser His Gly Val Arg Arg Gly Ser Phe Ala  
 370 375 380  
 Ser Gly Lys Asp Asn Pro Ile Trp Ile Ala Leu Asn Tyr Ser Pro Thr  
 385 390 395 400  
 Met Thr Met Met Ala Glu Asn Gly Asn Tyr Asn Thr Asp Thr Tyr Asn  
 405 410 415  
 Ser Ile Ala Ser Asn Pro Val Gly Ile Leu Lys Leu Gln Ser Gly Glu  
 420 425 430  
 Thr Met Thr Asn Val Phe Asn Gly Arg Val Asp Leu Arg Leu Asp Ile  
 435 440 445  
 Met Lys Gly Leu Thr Phe Thr Thr Asn Gly Val Asp Tyr Tyr Asp  
 450 455 460  
 Gly Lys Ser Tyr Ser Phe Ser Ser Lys Arg Val Gly Thr Lys Ser Gly  
 465 470 475 480  
 Met Gly Asn Asn Asp Thr Tyr Arg Leu Met Leu Gln Ser Ser Asn Asn  
 485 490 495  
 Leu Thr Tyr Thr Gly Ser Trp Asn Asp His His Leu Thr Ala Thr Ala  
 500 505 510  
 Val Tyr Glu Val Thr Ser Ser Glu Thr Arg Thr Met Gly Ile Thr Gly  
 515 520 525  
 Asn Asn Leu Leu Thr Glu Gly Val Gly Trp Trp Asn Val Gly Met Ala  
 530 535 540  
 Ser Ser Arg Asp Ala Asn Asn Gly Tyr Glu Gln Trp Ala Leu Met Ser  
 545 550 555 560  
 Gly Val Ala Arg Val Met Tyr Asn Phe Lys Asp Arg Tyr Met Leu Thr  
 565 570 575  
 Gly Thr Phe Arg Ala Asp Gly Ser Ser Arg Phe Ala Lys Lys Lys Trp  
 580 585 590  
 Gly Tyr Phe Pro Ser Ile Ala Ala Trp Thr Leu Ser Asn Glu Asp  
 595 600 605  
 Phe Met Lys Asp Val Ser Ser Val Gln Asp Ile Lys Leu Arg Ala Ser  
 610 615 620  
 Tyr Gly Ile Val Gly Ser Gln Ala Ile Ser Pro Tyr Ala Thr Met Gly  
 625 630 635 640  
 Leu Met Ser Ala Thr Ala Tyr Asn Phe Gly Thr Asn Ser Asn Phe Thr  
 645 650 655  
 Gly Tyr Trp Ala Asn Asp Ile Ala Thr Pro Glu Leu Thr Trp Glu Lys  
 660 665 670  
 Thr Lys Gln Phe Asp Leu Gly Leu Glu Phe Ser Leu Phe Asp Arg Arg

675	680	685
Leu Asn Phe Ser Val Asp Tyr	Phe Tyr Lys Arg Thr	Thr Asp Ala Leu
690	695	700
Leu Lys Arg Ser Ile Pro Gly	Tyr Val Gly Gly	Asn Ser Phe Trp Val
705	710	715
Asn Asp Gly Glu Ile Ser Asn Arg Gly	Ile Asp Leu Ser Val	Thr Ala
725	730	735
Arg Ile Met Gln Asn Asp Arg Phe	Gln Trp Thr Ser Thr	Leu Asn Gly
740	745	750
Thr Tyr Leu Lys Asn Arg Val Glu	Arg Leu Ser Gly Gly	Glu Asn Asp
755	760	765
Phe Ile Asn Gly Ser Ser Pro Ala Ala Gly	Met Val Asp Tyr Ala Thr	
770	775	780
Ile Ile Lys Pro Gly Glu Ala Ile Gly	Thr Phe Trp Gly Tyr Glu Trp	
785	790	795
Thr Gly Leu Asp Glu Asn Gly His Asp	Thr Tyr Thr Asp Val Asp Gly	
805	810	815
Asn Gln Met Ile Asp Gly Gly Asp Arg	Lys Val Ile Gly Lys Ala Asn	
820	825	830
Pro Asp Phe Thr Leu Gly Trp Asn Asn Ser	Leu Ser Tyr Lys Asn Trp	
835	840	845
Asp Leu Asn Leu Phe Phe Asn Gly Ser	Phe Gly Ala Lys Arg Leu Asn	
850	855	860
Leu Val Arg Tyr Thr Met Ala Ser Ala Glu	Gly Asn Ser Arg Phe Val	
865	870	875
Thr Leu Ala Asp Ala Tyr Leu Lys Gly	Phe Asp Lys Ile Gly Ser Ser	
885	890	895
Ala Thr Tyr Pro Ser Leu Thr Glu Gly	Asn Asn Leu Gln Pro Val	
900	905	910
Ser Thr Lys Trp Leu Glu Asn Ala Asp	Phe Leu Arg Leu Glu Asn Ile	
915	920	925
Ser Leu Ser Tyr Thr Phe Pro Lys Lys	Thr Thr Gly Phe Ala Asp Leu	
930	935	940
Arg Leu Thr Phe Ser Cys Gln Asn Leu Phe	Thr Ile Thr Gly Tyr Lys	
945	950	955
Gly Met Asp Pro Ala Gly Thr Thr Phe	Ser Asn Ser Ser Val Asp Val	
965	970	975
Asp Ala Gly Ile Asp Met Gly Ala Tyr	Pro Ser Pro Arg Thr Phe Thr	
980	985	990
Phe Gly Leu Arg Met Asn Phe		
995		

&lt;210&gt; 6730

&lt;211&gt; 68

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6730

Arg Pro Gly Thr Phe Thr Gly His Asp His	Phe Pro Glu Phe Leu Tyr		
1	5	10	15

Val Arg Gly Glu Thr Tyr Gly Met	Tyr Ala Ala Phe Phe Glu Tyr Leu	
20	25	30

Val Gln Arg His Thr Pro Gly Thr Val Thr Gln Ala Leu His	Glu Asp	
35	40	45

Arg Ile His Glu Thr Arg Ser Met	Thr Glu Asn Asn His Ser Thr Gly	
50	55	60

Gly Ala Asp Lys

65

<210> 6731  
<211> 287  
<212> PRT  
<213> B.fragilis

<400> 6731

Ala	Thr	Lys	Thr	Glu	Thr	Met	Glu	Leu	Phe	Tyr	Leu	Asn	Glu	His	Thr
1				5				10						15	
Ser	Cys	Tyr	Asn	Tyr	Ser	Lys	Ser	Met	Gln	Glu	Gly	Phe	Arg	Tyr	Tyr
				20				25					30		
Lys	Phe	Asp	Glu	Gly	Leu	Asn	His	Glu	Glu	Glu	Leu	Val	Lys	Asp	Cys
				35				40				45			
Ile	Leu	Phe	Val	Leu	Lys	Gly	Ser	Leu	Gln	Phe	Ser	Cys	Asn	Gly	Phe
				50				55				60			
Gln	Phe	Thr	Val	Ser	Ser	Gly	Glu	Met	Val	Phe	Phe	Cys	Arg	Asp	Ser
				65				70			75		80		
Leu	Phe	Asn	Thr	Gln	Ser	Leu	Glu	Lys	Cys	Glu	Val	Val	Ala	Ala	Leu
				85				90				95			
Phe	Glu	Gly	Gly	Val	Trp	Pro	Cys	Gln	Arg	Ala	Ser	Phe	Ser	Glu	Leu
				100				105				110			
Tyr	His	Leu	Arg	Glu	Ile	Val	Glu	Tyr	Arg	Met	Glu	Pro	Leu	Glu	Ile
				115				120				125			
Arg	Asp	Arg	Leu	Cys	Lys	Phe	Leu	Glu	Leu	Leu	Val	Cys	Tyr	Leu	Glu
				130				135				140			
Asp	Gly	Ala	Asn	Cys	Ile	His	Phe	His	Glu	Ile	Lys	Leu	Lys	Glu	Leu
				145				150			155		160		
Phe	Trp	Asn	Ile	Arg	Phe	Tyr	Tyr	Ser	Arg	Gln	Glu	Leu	Ala	Asn	Phe
				165				170				175			
Phe	Tyr	Met	Ile	Ile	Gly	Arg	Ser	Gln	Asp	Phe	Lys	Asn	Lys	Val	Leu
				180				185				190			
Asn	Asn	Tyr	Lys	Ser	Cys	Arg	Thr	Val	Lys	Glu	Leu	Ala	Ser	Ala	Cys
				195				200				205			
Asp	Ile	Ser	Leu	Ser	Ala	Phe	Lys	Arg	Gln	Phe	Ser	Ala	Glu	Phe	Gly
				210				215				220			
Glu	Ala	Pro	Ala	Glu	Trp	Met	Gln	Lys	Gln	Leu	Leu	Gly	Ile	Lys	
				225				230			235		240		
Tyr	Lys	Leu	Ser	Val	Thr	Asp	Leu	Pro	Leu	Gly	Thr	Ile	Ala	Asn	Glu
				245				250				255			
Leu	Glu	Phe	Ser	Ser	Leu	Ala	His	Phe	Ser	Arg	Phe	Cys	Lys	Arg	Cys
				260				265				270			
Leu	Gly	Cys	Ser	Pro	Arg	Glu	Leu	Arg	Gln	Gln	Ile	Lys	Gly	Gly	
				275				280				285			

<210> 6732  
<211> 207  
<212> PRT  
<213> B.fragilis

<400> 6732

Ser	Asn	Glu	Thr	Met	Asn	Asn	Ser	Met	Met	Lys	Pro	Phe	Phe	Leu	Leu
1				5				10				15			
Val	Phe	Leu	Leu	Cys	Ser	Ala	Gly	Ala	Phe	Ser	Gln	Lys	Val	Ala	Leu
				20				25				30			
Lys	Asn	Asn	Leu	Ala	Tyr	Asp	Ala	Leu	Lys	Thr	Pro	Asn	Leu	Ser	Leu
				35				40				45			
Glu	Phe	Ser	Met	Gly	Arg	Lys	Trp	Thr	Leu	Asp	Thr	Gln	Val	Gly	Met
				50				55				60			
Asn	Phe	Phe	Phe	Tyr	Thr	Arg	Asp	Ala	Thr	Ser	Ser	Arg	Tyr	Lys	Ala
				65				70			75		80		

Lys Lys Phe Ser His Trp Leu Val Gln Pro Glu Leu Arg Tyr Trp Thr  
       85                   90                   95  
 Cys Asp Val Phe Asn Gly Trp Phe Phe Gly Leu His Ala His Gly Gly  
       100               105               110  
 Gln Met Asn Ile Gly Gly Val Asp Val Pro Phe Val Leu Gln Lys Gly  
       115               120               125  
 Asp Gly Asn Met Lys Asp His Arg Tyr Glu Gly Tyr Phe Trp Gly Gly  
       130               135               140  
 Gly Leu Ser Ala Gly Tyr Gln Trp Val Leu Ser Asn Arg Phe Asn Ile  
       145               150               155               160  
 Glu Ala Ser Leu Gly Ile Gly Tyr Val His Ala Arg Tyr Asp Lys Tyr  
       165               170               175  
 Lys Cys Thr Thr Cys Gly Gln Lys Leu Gly Lys Gly Asp Ala Asp Tyr  
       180               185               190  
 Ile Gly Pro Thr Arg Ala Ala Ile Ser Ile Ile Tyr Met Leu Lys  
       195               200               205

&lt;210&gt; 6733

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6733

Lys Ser Asp Ala Phe Ser Val Arg Ser Leu Ser His Pro Thr Asn Ile  
   1               5               10               15  
 Asn Pro Ala Lys Ser Asn Thr Thr Leu His Asn Val Asn Leu Leu Phe  
   20               25               30  
 Ile Phe Ile Phe Thr Thr Ile Ile Asp Lys Asn Asn Ile Ser Ile Asn  
   35               40               45  
 Leu Ala Lys Lys Asn Ile Asn His Leu Arg Gln Thr Asn Tyr Leu Ile  
   50               55               60  
 Asn Asn Asn Ile Phe Ile Glu Tyr Asn Thr Gln Pro Ile Ile Tyr Cys  
   65               70               75               80  
 Ala Lys Lys Lys Gln Asp Lys Ile Leu Leu Ile Ile Ile Leu Ala Leu  
   85               90               95

&lt;210&gt; 6734

&lt;211&gt; 467

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6734

Lys Lys Ser Tyr Thr Tyr Lys Thr Tyr Arg Ser Leu Thr Asp Gly Ser  
   1               5               10               15  
 Gly Thr Asp Phe Pro Ser Phe Val Gln Phe Ser Arg Leu Val Thr Glu  
   20               25               30  
 Leu Phe Trp Ser Phe Ser Asp Leu Met His Ile Ser Leu Cys Phe Leu  
   35               40               45  
 Ser Arg Lys Gln Gly Ser Val Lys Cys Leu Thr Asn Lys Lys Leu Met  
   50               55               60  
 Ala Thr Val Lys Thr Val Leu Val Lys Gly Arg Ser Asn Arg Ser Gly  
   65               70               75               80  
 Lys Phe Pro Leu Val Val Gln Val Leu His Lys Arg Arg Lys Lys Val  
   85               90               95  
 Val Tyr Thr Gly Phe Ser Ile Pro Asp Thr Leu Phe Asp Pro Val Lys  
   100              105              110  
 Gly Arg Val Ile Asp Gly Gly Glu Asn Thr Pro Glu Ser Ile Arg Arg  
   115              120              125  
 Ile Asn Asn Arg Cys Glu Ser Ile Ser Arg Val Leu Leu Lys Cys Ile

130	135	140
Ser Met Ile Glu Lys Lys	Ser Arg Glu Tyr Glu Ile Glu Asp Val Phe	
145	150	155
Arg Thr Tyr Gly Val Leu Thr Arg Glu Ala Gly Phe Tyr Phe Tyr Phe		160
165	170	175
Ser Arg Lys Ile Arg Glu Leu Arg Glu Ser Gly His Glu Gly Thr Ala		
180	185	190
Arg Ala Tyr Ala Ser Ser Leu Arg Ser Met Gln Arg Tyr Leu Gly Lys		
195	200	205
Lys Asp Phe Pro Phe Ile Lys Leu Ser Ser Arg Ile Ile Ser Asp Tyr		
210	215	220
Gln Gly Lys Leu Leu Ala Ser Gly Ile Cys Asp Asn Thr Ile Gly Phe		
225	230	235
Tyr Leu His Asn Ile Lys Ala Leu Phe Arg Lys Gly Cys Arg Glu Met		240
245	250	255
Gly Leu Glu Leu Pro Cys Pro Phe Arg Asp Ile Ser Ile Lys Thr Glu		
260	265	270
Lys Thr Leu Lys Arg Ser Leu Asp Pro Val Val Ile Lys Thr Leu Ser		
275	280	285
Ala Ile Glu Leu Glu Lys Asp Ser Pro Leu Ser Leu Ala Arg Asp Ile		
290	295	300
Phe Met Phe Ser Phe Tyr Thr Arg Gly Met Ser Phe Val Asp Ile Ala		
305	310	315
Leu Leu Lys Lys Arg His Val Phe Pro Gly Glu Ile Cys Tyr Arg Arg		
325	330	335
His Lys Thr Asp Gln Leu Met Arg Val Gly Ile Asn Lys Glu Ile Ser		
340	345	350
Arg Ile Leu Glu Arg Tyr Lys Asn Val Pro Gly Glu Tyr Ile Phe Pro		
355	360	365
Leu Phe Pro Ala Glu Arg Asp Pro Tyr Ala Gly Tyr Arg Ser Ala Tyr		
370	375	380
His Arg Ile Arg Tyr Ser Leu Gly Lys Ile Ser Arg Val Ile Gly Leu		
385	390	395
Glu Phe Pro Leu Arg Leu His Ala Ala Arg His Ser Trp Ala Thr Ile		
405	410	415
Ala Lys Val Asn Gly Ala Ser Val His Val Ile Gly Glu Cys Leu Gly		
420	425	430
His Thr Ser Glu Lys Thr Thr Arg Ile Tyr Leu Lys Glu Leu Asp His		
435	440	445
Ser Ala Leu Asp Ala Val Asn Asn Gln Val Ala Asp Phe Ile Leu Ala		
450	455	460
Val Asp Asp		
465		

&lt;210&gt; 6735

&lt;211&gt; 486

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6735

Asn Arg Leu Gln Ile Ile Ser Thr Phe Gly Gln Ala Arg Val Cys Cys		
1	5	10
Arg Arg Ala Asn Leu Val Glu Ser Leu Gln Ile Gly Val Cys Gln Ser		15
20	25	30
Tyr Lys Ala Gly Ile Pro Phe Gly Arg Ser His Arg Ile Ser Tyr Lys		
35	40	45
Ile Gln Thr Phe Gly Ser Glu Arg Ser Val Glu Glu Gln Val Gln Ile		
50	55	60
Pro Val Phe Ile Arg Gln Gly Val Ile Pro Ser Gln Gly Glu Ile Gly		

65	70	75	80												
Ile	Gly	Leu	Ala	Asp	Asp	Leu	Ala	Val	Ala	Thr	Val	Tyr	His	Leu	Ile
				85					90					95	
Ser	Ile	Tyr	Ile	Arg	Val	Ser	Val	Met	Ser	Val	Phe	Ile	Gln	Ala	Gly
				100				105					110		
Pro	Phe	Ile	Ser	Pro	Lys	Ser	Thr	Asp	Gly	Leu	Thr	Arg	Leu	Asp	Asn
				115				120				125			
Gly	Gly	Ile	Ile	Asn	His	Thr	Gly	Ser	Arg	Thr	Gly	Ala	Val	Asp	Glu
				130			135				140				
Ile	Ile	Leu	Thr	Thr	Gly	Lys	Ala	Phe	His	Ala	Val	Leu	Gln	Ile	Ser
				145			150				155			160	
Thr	Val	Gln	Gly	Gly	Pro	Leu	Glu	Pro	Val	Ile	Leu	His	Asn	Pro	
				165				170				175			
Gly	Gly	His	Ala	Gln	Ile	Asn	Thr	Thr	Ile	Thr	Asp	Phe	Ala	Val	Ile
				180			185				190				
His	Pro	Lys	Arg	Val	Thr	Ala	Asp	Ile	Ser	Gly	Asp	Thr	Ser	Phe	Lys
				195			200				205				
Gln	Arg	Ile	Cys	Ser	Thr	Leu	Ile	Glu	Ile	Val	His	Thr	Glu	Ile	Gln
				210			215				220				
Pro	Pro	Val	Glu	Gln	Gly	Glu	Leu	Gln	Thr	Gln	Val	Glu	Leu	Leu	Gly
				225			230				235			240	
Leu	Leu	Pro	Arg	Lys	Leu	Gly	Ser	Arg	Tyr	Val	Ile	Cys	Pro	Ile	Thr
				245				250				255			
Gly	Lys	Ile	Thr	Val	Gly	Ser	Lys	Ile	Val	Cys	Ser	Ser	Thr	His	Lys
				260			265				270				
Ala	His	Gly	Arg	Val	Arg	Thr	Asp	Gly	Leu	Ala	Thr	His	Asn	Thr	Ile
				275			280				285				
Thr	Gly	Ala	Lys	Phe	Asn	Val	Leu	Asn	Arg	Gly	Asn	Ile	Leu	His	Glu
				290			295				300				
Ile	Leu	Ile	Ala	Gln	Arg	Pro	Ser	Cys	Gly	Asn	Arg	Arg	Lys	Val	Pro
				305			310				315			320	
Pro	Phe	Leu	Phe	Gly	Lys	Ala	Arg	Arg	Thr	Val	Gly	Thr	Lys	Cys	Ser
				325				330				335			
Gly	Lys	His	Ile	Thr	Ile	Leu	Lys	Ile	Val	His	Asp	Thr	Gly	His	Ser
				340			345				350				
Arg	His	Gln	Arg	Pro	Leu	Leu	Val	Thr	Ile	Val	Cys	Ile	Thr	Arg	Gly
				355			360				365				
Ser	His	Thr	His	Ile	Pro	Pro	Ala	His	Thr	Leu	Gly	Gln	Gln	Val	Val
				370			375				380				
Thr	Gly	Tyr	Thr	His	Cys	Pro	Gly	Phe	Gly	Gly	His	Leu	Ile	Tyr	
				385			390				395			400	
Ser	Arg	Gly	Cys	Gln	Met	Met	Val	Ile	Pro	Gly	Thr	Cys	Ile	Cys	Gln
				405				410				415			
Ile	Val	Gly	Ala	Leu	Gln	His	Gln	Thr	Ile	Ser	Ile	Val	Ile	Ala	His
				420				425				430			
Thr	Thr	Leu	Gly	Pro	His	Ser	Phe	Gly	Ala	Glu	Thr	Ile	Thr	Phe	Pro
				435			440				445				
Val	Ile	Ile	Val	His	Ala	Ile	Gly	Cys	Gly	Glu	Cys	Gln	Pro	Leu	His
				450			455				460				
Tyr	Ile	Lys	Ala	Gln	Ile	Asn	Thr	Ser	Val	Glu	Asn	Ile	Gly	His	Cys
				465			470				475			480	
Leu	Ser	Arg	Leu	Gln	Leu										
				485											

&lt;210&gt; 6736

&lt;211&gt; 342

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6736

Ile Lys Arg Lys Met Arg Thr Ile Ala Cys Lys Thr Val Trp Ala Leu  
 1 5 10 15  
 Leu Ile Gly Val Ser Leu Val Leu Ser Leu Asn Ser Cys Ser Lys Asp  
 20 25 30  
 Pro Val Ile Pro Glu Asp Glu Thr Lys Asn Lys Leu His Glu Asp Pro  
 35 40 45  
 Ala Lys Met Thr Val Arg Leu Val Glu Cys His Leu His Ala Asp Trp  
 50 55 60  
 Asn Glu Ile Gln Lys Ala Gly Gly Pro His Gln Asn Pro Glu Ser Pro  
 65 70 75 80  
 Ala Arg Tyr Met Lys Arg Val Gln Glu Ile Thr Tyr Glu Leu Lys Thr  
 85 90 95  
 Gly Ser Gly Trp Thr Leu Ala Glu Gly Ser Gln Gly Lys Phe Tyr Val  
 100 105 110  
 Gln Lys Asn Gly Glu Tyr Lys Asn Gly Asn Asn Phe Thr Pro Ala Pro  
 115 120 125  
 Val Tyr Leu Met Phe Ile Tyr Tyr Tyr Asn Ser Lys Gly Glu Leu Met  
 130 135 140  
 Asn Gly Gln Phe Val Glu Asn Gly Gln Glu Asn Ile His Gln His Phe  
 145 150 155 160  
 Phe Thr Pro Glu Asn Val Arg Pro Thr Phe Asp Gly Lys Pro Glu Ala  
 165 170 175  
 Asp Asp Asn Asp Pro Glu Ala Leu Val Asp Tyr Leu Tyr Val Asp Thr  
 180 185 190  
 Thr Pro Trp Asp Lys Thr Lys His Asp Asn Glu Ala Glu Ile Thr Gly  
 195 200 205  
 Ser Thr Asn Pro Val Gly Leu Lys Gly Val Ile Arg Phe Leu Lys Asp  
 210 215 220  
 Arg Lys Glu Phe Asp Leu Lys Leu Arg Leu Tyr His Gly Tyr Asn Ser  
 225 230 235 240  
 Lys Lys Asn Pro Gln Thr Asn Gly Phe Asp Pro Phe Tyr Lys Pro Ser  
 245 250 255  
 Gly Val Leu Ile Gln Arg Gly Thr Trp Asp Ile Asn Leu Ser Ile Pro  
 260 265 270  
 Val Val Val Phe Trp Ser Arg Glu Glu Phe Val Asp Val Asp Pro Glu  
 275 280 285  
 Ala Asp Val Asn Leu Ile Gly Glu Asp Ser Leu Asp Glu Asp Ser Asn  
 290 295 300  
 Arg Thr Leu His Ser Ile Met Lys Thr Phe Ser Leu Thr Trp Lys Glu  
 305 310 315 320  
 Ala Leu Glu Glu Phe Ile Ser Tyr Thr Tyr Gln Ala Gly Asp Val Glu  
 325 330 335  
 Ala Gly Ser Ile Trp Leu  
 340

&lt;210&gt; 6737

<211> 65  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 6737

Cys His Gly Asn Asp Leu His Thr Pro Phe Pro Tyr Gln Leu Lys Ser  
 1 5 10 15  
 His Val Gln Val Thr Tyr Pro Ser Phe Arg Lys His Met Thr Gly Lys  
 20 25 30  
 Ala Gly Ala Glu Asn Thr Glu Lys Thr Ile Gln Asn Leu Val His Asp  
 35 40 45  
 Ile Lys Lys Leu Tyr Ile Glu Asn Gln Arg Ser Asp Pro Pro Ile Asn

50

55

60

Trp  
65

&lt;210&gt; 6738

&lt;211&gt; 260

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6738

Arg	Gly	Glu	Asp	Ala	Ala	Arg	Pro	Arg	Ala	Thr	Ser	Ala	Arg	Arg	Arg
1				5					10				15		
Ala	Pro	Ala	Pro	Thr	His	Asp	Ala	Asp	Arg	Ser	Thr	Arg	Ala	Pro	Arg
				20				25				30			
Thr	Thr	Gly	Arg	Ala	Pro	Pro	Ala	Arg	Thr	Gly	Thr	Pro	Gln	Pro	Thr
					35			40			45				
Thr	Pro	Asp	Arg	Ala	Ala	Arg	Arg	Ala	Arg	Gly	Ala	Arg	Glu	Arg	Gly
		50				55			60						
Arg	Lys	Arg	Arg	Arg	Lys	Thr	Arg	Lys	Lys	Lys	Glu	Glu	Lys	Lys	Lys
	65				70			75			80				
Lys	Thr	Lys													
					85			90			95				
Lys															
					100			105			110				
Lys	Lys	Lys	Lys	Lys	Asn	Lys	Lys	Lys	Lys	Lys	Arg	Lys	Lys	Lys	Lys
					115			120			125				
Lys															
					130			135			140				
Lys															
					145			150			155			160	
Lys															
					165			170			175				
Lys															
					180			185			190				
Lys															
					195			200			205				
Lys															
					210			215			220				
Lys															
					225			230			235			240	
Lys															
					245			250			255				
Thr	Pro	Met	Asn												
			260												

&lt;210&gt; 6739

&lt;211&gt; 109

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6739

Gln	Thr	His	Arg	Gly	Cys	Thr	Glu	Glu	Met	Arg	Glu	Lys	Asn	Asp	Asp
1				5				10			15				
Asp	Ile	Cys	Phe	Pro	Gly	Asp	Lys	Ile	Pro	Tyr	Arg	Pro	Ala	Ser	Arg
				20				25			30				
Asn	Ile	Ile	Val	Tyr	Lys	Asn	Pro	Cys	Leu	Asp	Lys	Arg	Gly	Glu	Arg
				35				40			45				
Lys	Glu	Thr	Asp	Gly	Thr	Ile	Phe	Arg	Arg	Ile	Val	Thr	Gly	Val	Ser
				50				55			60				

Leu Phe Val Met Gly Tyr Ala Arg Met Phe Pro Val Asn Met Lys Ser  
 65 70 75 80  
 Phe His Glu Glu Lys Gly His Gln Cys Gln Gln His Thr Cys Tyr  
 85 90 95  
 Asp Ser Pro Leu Ser Leu Ser Phe Phe Arg Thr Ile His  
 100 105

<210> 6740

<211> 259

<212> PRT

<213> B.fragilis

<400> 6740

Gly Ala Ala Arg Thr Pro Arg Asp Arg Ala Gln Gln Ala Arg Ala Asp  
 1 5 10 15  
 Glu Pro Arg Arg Pro Arg Thr Thr Arg Thr Gly Ala His Glu His Arg  
 20 25 30  
 Ala Arg Gln Ala Gly Pro Arg Pro Arg Glu Gln Ala Arg Arg Asn Pro  
 35 40 45  
 Gln Pro Gln Thr Ala Arg Arg Ala Ala His Gly Glu Gln Gly Arg Glu  
 50 55 60  
 Gly Gly Arg Asp Gly Gly Lys Arg Glu Lys Lys Arg Lys Lys Lys  
 65 70 75 80  
 Lys Lys Pro Arg Lys Lys Lys Lys Lys Lys Lys Lys Lys Arg Lys  
 85 90 95  
 Lys  
 100 105 110  
 Lys Lys Lys Lys Lys Lys Thr Lys Lys Lys Lys Lys Gly Lys Lys  
 115 120 125  
 Lys  
 130 135 140  
 Lys Lys Lys Arg Lys  
 145 150 155 160  
 Lys  
 165 170 175  
 Lys  
 180 185 190  
 Lys  
 195 200 205  
 Lys  
 210 215 220  
 Lys  
 225 230 235 240  
 Lys  
 245 250 255  
 Lys His Gln

<210> 6741

<211> 512

<212> PRT

<213> B.fragilis

<400> 6741

Phe Leu Asn Gly Arg Ser Gln Pro Lys Leu Thr Pro Glu Asn Phe Phe  
 1 5 10 15  
 Ser Thr Gln Asp Glu Leu Asn Met Ser Ile Tyr Ala Leu Tyr Gln Lys  
 20 25 30  
 Val Asn Leu Ser Gln Val Tyr Thr Asn Met Gln Leu Ser Gln Trp Gln

35	40	45
Gly Asp Asp Ile Thr Thr Asn Pro Gly Ser Asn Lys Gln Ser Ala Ala		
50	55	60
Glu Met Asp Lys Phe Ala Ala Ala Asn Asn Lys Gly Val Lys Asp		
65	70	75
Ala Trp Asn Met His Tyr Ala Ile Val Lys Ala Ala Asn Leu Ile Ile		
85	90	95
Gln Gly Ala Ser Lys Thr Pro Thr Thr Gln Asp Glu Ile Asn Ile Gly		
100	105	110
Leu Gly Gln Ala Lys Phe Trp Arg Ala Tyr Ala Tyr Phe Thr Leu Val		
115	120	125
Arg Leu Trp Gly Pro Leu Pro Met Asn Leu Asp Asn Val Asn Asp Asp		
130	135	140
Tyr Thr Lys Pro Leu Ser Pro Val Glu Glu Val Tyr Gly His Ile Val		
145	150	155
Gln Asp Leu Thr Glu Ala Glu Ala Val Leu Pro Thr Gly Tyr Ser Gly		
165	170	175
Ser Pro Arg Phe Leu Asn Gly Val Asn Val Tyr Val Thr Arg Gln Ala		
180	185	190
Ala Lys Ser Thr Leu Ala Ala Val Tyr Met Ala Met Ala Gly Trp Pro		
195	200	205
Met Asn Lys Thr Glu Tyr Tyr Ala Lys Ala Ala Glu Lys Ala Lys Glu		
210	215	220
Val Ile Glu Gly Val Asn Arg Gly Glu Tyr Glu Tyr Lys Leu Asp Lys		
225	230	235
Asp Tyr Lys Asp Val Tyr Ala Met Ser Asn Asn Tyr Asn Asn Glu Thr		
245	250	255
Val Leu Gly Ile Asn Tyr Ser Pro Phe Val Asp Trp Ala Gln Asp Ser		
260	265	270
Glu Leu Thr Ser Cys Asn Gln Tyr Glu Ser Leu Gly Gly Trp Gly Asp		
275	280	285
Ala Trp Gly Glu Ile Arg Phe Trp Lys Glu Phe Pro Asp Gly Pro Arg		
290	295	300
Lys Asp Ala Thr Tyr Asp Pro Lys Ile Arg Leu Lys Asp Gly Thr Leu		
305	310	315
Val Asp Trp Trp Glu Leu Lys Glu Asp Gly Thr Pro Val Val Pro Glu		
325	330	335
His His Pro Met Phe Ser Ile Phe Ser Val Asn Trp Asp Pro Ala Ser		
340	345	350
Lys Val Asn Thr Ser Ala Pro Tyr Asp Tyr Thr Lys Pro Ala Ser Gln		
355	360	365
Asn Met Cys Asn Asp His Arg His Arg Ile Ile Arg Tyr Ser Glu Val		
370	375	380
Leu Leu Trp Tyr Ala Glu Ala Lys Ala Arg Thr Gly Gln Thr Asp Glu		
385	390	395
Leu Ala Phe Lys Cys Leu Asn Asp Val Arg Glu Arg Ala Gly Leu Glu		
405	410	415
Pro Leu Thr Gly Leu Ser Ala Asp Asp Leu Ala Glu Ala Ala Tyr Lys		
420	425	430
Glu His Gly Trp Glu Val Ala Gly Tyr Trp Val Ala Leu Val Thr Arg		
435	440	445
Arg Ala Asp Gln Phe Arg Met Asn Arg Leu Lys Asp Thr Phe Lys Glu		
450	455	460
Arg Ala Glu Asn Thr Ala Val Glu Val Ala Asp Gly Ile Leu Val Lys		
465	470	475
Glu Ser Val Glu Tyr Thr Asn Arg Thr Trp Ser Asp Asn Leu Met Tyr		
485	490	495
Leu Pro Tyr Pro Asp Met Asp Ser Gln Lys Asn Pro Asn Leu Val Arg		
500	505	510

&lt;210&gt; 6742

&lt;211&gt; 278

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6742

Ala	Arg	Arg	Gly	Arg	Arg	Ala	Thr	Ala	Arg	Asn	Lys	Arg	Ala	Pro	Thr	
1				5					10					15		
Ser	Pro	Gly	Ala	His	Ala	Arg	Arg	Gly	Gln	Glu	His	Thr	Ser	Thr	Ala	
				20					25					30		
His	Asp	Arg	Gln	Gly	Pro	Ala	Arg	Ala	Asn	Arg	His	Ala	Ala	Thr	His	
				35					40					45		
Asn	Pro	Arg	Pro	Arg	Gly	Ala	Pro	Arg	Thr	Gly	Ser	Lys	Gly	Glu	Arg	
				50					55					60		
Glu	Glu	Glu	Thr	Glu	Glu	Asn	Ala	Lys	Lys	Lys	Gly	Arg	Lys	Lys	Lys	
				65					70					75		80
Lys	Asn	Gln	Glu	Lys	Glu	Lys										
				85					90					95		
Lys																
				100					105					110		
Lys	Lys	Lys	Lys	Lys	Gln	Lys	Lys	Lys	Lys	Lys	Lys	Glu	Lys	Lys		
				115					120					125		
Lys																
				130					135					140		
Lys	Lys	Lys	Glu	Lys												
			145						150					155		160
Lys																
			165						170					175		
Lys																
			180						185					190		
Lys																
			195						200					205		
Lys																
			210						215					220		
Lys																
			225						230					235		240
Lys																
			245						250					255		
Asn	Thr	Asn	Glu	Leu	Thr	Cys	Pro	Lys	Ile	Thr	Leu	Gln	Leu	Leu	Ser	
			260						265					270		
Ile	Ser	Leu	Ile	Ile	Ile											
			275													

&lt;210&gt; 6743

&lt;211&gt; 430

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6743

Arg	Arg	Trp	Gly	Met	Met	Arg	Arg	Met	Asp	Val	His	Glu	Ala	Ala	Asn
1				5					10					15	
Arg	Arg	Leu	Lys	Ile	Ile	Phe	Asp	Tyr	Phe	Asp	Tyr	Val	Tyr	Val	Ser
				20					25					30	
Phe	Ser	Gly	Gly	Lys	Asp	Ser	Gly	Ile	Leu	Leu	His	Leu	Cys	Met	Asp
				35					40					45	
Tyr	Ile	Arg	Met	His	Ala	Pro	Gly	Arg	Lys	Leu	Gly	Val	Phe	His	Met
			50						55					60	
Asp	Tyr	Glu	Val	Gln	Tyr	Arg	Gln	Ser	Thr	Glu	Tyr	Val	Glu	Arg	Met

65	70	75	80
Phe Ser Asn Asn Arg Asp Ile Leu Glu Val Phe His Cys Cys Val Pro			
85		90	95
Phe Lys Val Pro Thr Cys Thr Ser Met Tyr Gln Gln Tyr Trp Arg Pro			
100		105	110
Trp Gln Glu Gly Tyr Gln Asn Ile Trp Val Arg Gln Met Pro Gly Thr			
115		120	125
Ala Leu Thr Val Lys Asp Phe Asp Phe Trp Asn Asp Ser Leu Trp Asp			
130		135	140
Tyr Asp Phe Gln Ser Leu Phe Pro Ser Trp Ile Arg Arg Lys Lys Gly			
145		150	155
Cys Lys Arg Val Cys Cys Leu Val Gly Ile Arg Thr Gln Glu Ser Phe			
165		170	175
Asn Arg Trp Arg Ala Ile His Ser Asp Lys Asn Tyr Arg Lys Leu Ala			
180		185	190
Asn Tyr Lys Trp Thr His Arg Val Gly Tyr Tyr Thr Tyr Asn Ala Tyr			
195		200	205
Pro Met Tyr Asp Trp Lys Thr Thr Asp Val Trp Thr Gly Tyr Ala Arg			
210		215	220
Tyr Gly Trp Asp Tyr Asn Arg Leu Tyr Asp Leu Tyr Tyr Gln Ala Gly			
225		230	235
Ile Pro Leu Ser Arg Gln Arg Val Ala Ser Pro Phe Ile Ser Gln Ala			
245		250	255
Val Ser Thr Leu His Leu Tyr Lys Val Ile Asp Pro Asp Thr Trp Gly			
260		265	270
Arg Met Val Ser Arg Val Asn Gly Val Ser Phe Ala Gly Met Tyr Gly			
275		280	285
Asn Thr Val Ala Met Gly Trp Arg Ser Ile Ser Cys Pro Asp Gly Phe			
290		295	300
Thr Trp Lys Glu Tyr Met Tyr Phe Leu Leu Asp Thr Leu Pro Arg Ala			
305		310	315
Thr Arg Glu Asn Tyr Leu Glu Lys Leu Arg Val Ser Gln Lys Phe Trp			
325		330	335
Arg Glu Lys Gly Gly Cys Leu Gly Glu Glu Thr Ile Gly Lys Leu Arg			
340		345	350
Ala Ala Gly Val Pro Phe Thr Val Glu Glu Cys Thr Thr Tyr Arg Thr			
355		360	365
Asp Lys Arg Pro Val Arg Met Glu Tyr Ile Asp Glu Ile Asp Ile Pro			
370		375	380
Glu Phe Arg Glu Ile Pro Thr Tyr Lys Arg Met Cys Val Cys Ile Leu			
385		390	395
Lys Asn Asp His Thr Cys Lys Tyr Met Gly Phe Thr Gln Thr Lys Arg			
405		410	415
Glu Arg Glu Met Lys Glu Arg Val Leu Lys Arg Tyr Lys Leu			
420		425	430

&lt;210&gt; 6744

&lt;211&gt; 176

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6744

Leu Ile Phe Phe Leu Ala Arg Phe Ile Asp Ile Leu Phe Leu Ser Ile			
1	5	10	15
Ile Val Val Asn Ile Asn Met Lys Ser Lys Phe Thr Leu Trp Ser Val			
20		25	30
Val Leu Leu Leu Ala Gly Phe Ile Phe Val Gly Cys Asp Asn Glu Arg			
35		40	45
Thr Glu Asn Ala Ser Asp Phe Gln Thr Gly Ile His Lys Ile Val Ile			

50	55	60
Gln Gln Ser Gly Asp Thr Asp Ser Phe Glu Val Ser Val Ser Ile Gly		
65	70	75
Gly Ala Asp Lys Gly Gly Pro Ala Lys Leu Tyr Asn Asp Lys Gly Glu		80
85	90	95
Tyr Ile Gly Asp Ser Tyr Ser Ala Gln Ile Arg Thr Ala Thr Met Ser		
100	105	110
Cys Cys Thr Asn Gly Asn Ala Phe Phe Met Thr Cys Ala Gly Ser Val		
115	120	125
Ser Ser Ile Ser Glu Ala Gly Lys Arg Leu His Ile Thr Val Ile Gly		
130	135	140
Tyr Ile Asp Asp Lys Glu Val Asn Arg Leu Glu Lys Glu Tyr Ile Thr		
145	150	155
Asp Gly Asn Thr Leu Ile Glu Thr Phe Ser Val Ser Thr Lys Glu Ile		160
165	170	175

&lt;210&gt; 6745

&lt;211&gt; 785

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6745

Pro Val Tyr Ile Phe Ser Ser Met Thr Phe His Ala Tyr Leu Gln Tyr		
1	5	10
Val Cys Leu Leu Val Val Cys Leu Cys Thr Leu Pro Ser Pro Met Glu		15
20	25	30
Ala Arg Val Gln Ala Asp Arg Gln Ser Thr Gly Thr Arg Asp Thr Leu		
35	40	45
Leu Val Ile Asp Gln Glu Ser Gly Leu Pro Ile Glu Gly Ala Tyr Ile		
50	55	60
Leu Thr Arg Glu Arg Leu Leu Val Ser Ser Pro Arg Gly Met Ile Val		
65	70	75
Phe Gly His Gly Thr Cys Phe Met Asp Thr Val Leu Val Gln Cys Leu		80
85	90	95
Gly Tyr Gly Ser Arg Arg Val Pro Leu Asn Glu Val Phe Lys Glu Ser		
100	105	110
Ser Ile His Thr Val Cys Leu Ser Pro Asp Ile Gln Lys Leu Gly Glu		
115	120	125
Val Val Val Thr Gly Glu Arg Ala Gly Ala Ser Pro Asn Val Val Ser		
130	135	140
Arg Arg Leu Ser Ser Pro Glu Ile Arg Asn Ala Leu Gly Thr Ser Leu		
145	150	155
Ala Thr Leu Leu Glu Arg Val Ser Gly Val Ser Ser Ile Ser Thr Gly		160
165	170	175
Thr Thr Val Ser Lys Pro Val Ile Gln Gly Met Tyr Gly Asn Arg Ile		
180	185	190
Leu Ile Ile His Asn Gly Ala Arg Gln Thr Gly Gln Gln Trp Gly Ala		
195	200	205
Asp His Ala Pro Glu Val Asp Met Asn Gly Ser Ser Ser Val Ser Val		
210	215	220
Ile Lys Gly Ser Asp Ala Val Arg Tyr Gly Ser Asp Ala Leu Gly Gly		
225	230	235
Ile Ile Val Met Glu Gln Ser Pro Leu Pro Phe Arg Lys Arg Ser Leu		240
245	250	255
Gln Gly Gly Ile Ser Ala Leu Tyr Gly Ser Asn Gly Arg Arg Tyr Val		
260	265	270
Ala Thr Gly Gln Leu Glu Gly Ala Phe Pro Gly Asp Phe Ala Trp Arg		
275	280	285
Leu Gln Gly Thr Trp Ser Asn Ser Gly Asp Arg Ser Thr Ala His Tyr		

290	295	300
Leu	Leu Asn Asn Thr	Gly Thr Arg Glu Tyr His Ala Ser Ala Ser Leu
305	310	315
Gly	Tyr Asp Arg Gly Arg	Leu Arg Val Glu Gly Phe Tyr Ser Arg Phe
	325	330
Tyr	Ser Arg Thr Gly Val Met	Leu Ser Ala Gln Met Gly Ser Glu Asp
	340	345
Leu	Leu Ala Glu Arg Ile Arg	Leu Gly Arg Pro Leu His Thr Asp Pro
	355	360
Phe	Ser Arg Gly Ile Arg Ala Pro Cys	Gln Glu Val Thr His Gln Ile
	370	375
Thr	Phe Gly Arg Met Arg	Leu Gly Met Lys Lys Gly Ser Ile His
385	390	395
Trp	Gln Ser Thr Trp Gln Lys	Asp Asp Arg Gln Glu Asn Arg Val Arg
	405	410
Arg	Leu Asp Ser Asn Ile Pro Ala Val	Ser Leu His Leu Asn Ser Phe
	420	425
Gln	His Leu Leu Arg Trp Lys	Arg Asp Tyr Arg Ser Trp Gln Val Glu
	435	440
Ala	Gly Gly Gln Val Met	Phe Ile Glu Asn His Ser Arg Ala Gly Thr
	450	455
Gly	Phe Val Pro Val Ile Pro Asn	Tyr Thr Glu Thr Gln Ala Gly Ile
465	470	475
Tyr	Gly Ile Gly Lys	Tyr His Leu Ala Arg Gly Gly Val Glu Ala Gly
	485	490
Leu	Arg Leu Asp Met Gln Glu	Thr Arg Ala Ser Gly Tyr Asp Trp Thr
	500	505
Gly	Ser Pro Tyr Gly Gly	Thr Arg Lys Phe Asn Asn Val Ser Tyr Ser
	515	520
Leu	Gly Gly His Tyr Gln	Leu Ser Arg Arg Trp Arg Leu Thr Ser Asn
	530	535
Phe	Gly Leu Ala Trp Arg	Ala Pro His Val Tyr Glu Leu Tyr Ser Asn
545	550	555
Gly	Asn Glu Leu Gly Ser	Gly Met Phe Val Arg Gly Asp Ser Ala Met
	565	570
His	Ser Glu Arg Ser	Tyr Lys Trp Ile Ser Ser Leu Arg Tyr Gly Asp
	580	585
Gly	Met Phe Ser Val Cys	Leu Asp Gly Tyr Leu Gln Trp Val Asp Gly
	595	600
Tyr	Ile Tyr Asp Gly Pro	Glu Thr Val Thr Val Ile Ser Gly
	610	615
Ala	Tyr Pro Val Phe Gln	Tyr Arg Gln Thr Pro Ala Phe Phe Arg Gly
	625	630
Met	Asp Phe Asp Leu Arg	Phe Thr Pro Gly Gly Ser Trp Asp Tyr His
	645	650
Ala	Val Val Ser Phe Ile Arg	Ala Asn Glu Arg Thr Lys Gly Asn Tyr
	660	665
Leu	Pro Tyr Ile Pro Ser	Phe Arg Phe Ser His Glu Leu Ala Trp Ile
	675	680
His	Glu Thr Lys Ser His	Leu Arg Leu Arg Leu Asn Ile Arg His Arg
	690	695
Phe	Thr Ala Lys Gln Arg	Arg Phe Asp Pro Asp Thr Asp Leu Ile Pro
	705	710
Tyr	Thr Pro Pro Ala Tyr	His Leu Leu Gly Phe Asp Ala Ala Leu Glu
	725	730
Leu	Pro Val Lys Arg Gly	His Gln Val Arg Phe Met Leu Ser Ala Asp
	740	745
Asn	Leu Leu Asn Arg Glu	Tyr Lys Glu Tyr Thr Asn Arg Ser Arg Tyr
	755	760
		765

Tyr Ala His Asp Met Gly Arg Asp Val Arg Cys Gly Val Asn Trp Ile  
 770 775 780  
 Phe  
 785

<210> 6746  
 <211> 138  
 <212> PRT  
 <213> B.fragilis

<400> 6746  
 Arg Ile Gly Ile Met Asn Ile Leu Lys Leu Gln Gly Leu Asp Gly Arg  
 1 5 10 15  
 Leu Phe Asp Leu Val Ala Pro Leu Val Met Asn Pro Ala Val Leu Arg  
 20 25 30  
 Gln Asn Asn Asn Tyr Pro Phe Lys Thr Thr Arg Asn His Val Trp Tyr  
 35 40 45  
 Ile Ala Met Asp Glu Gln Arg Val Leu Gly Phe Met Pro Val Lys Met  
 50 55 60  
 Thr Leu Thr Asn Asn Cys Ile Asp Asn Tyr Tyr Ile Ser Gly Asp Asn  
 65 70 75 80  
 Ser Ser Val Ile Glu Val Leu Leu Asp Arg Ile Ile His Asp Phe Ser  
 85 90 95  
 Ser Asp Gly Ser Leu Val Ala Val Val His Glu Arg His Val Glu Asp  
 100 105 110  
 Phe Ser Met Lys Asn Phe Ile Pro Cys Val Glu Trp Lys Lys Tyr Val  
 115 120 125  
 Lys Met Arg Tyr His Glu Gly Gly Ala  
 130 135

<210> 6747  
 <211> 177  
 <212> PRT  
 <213> B.fragilis

<400> 6747  
 Ile Val Ile Val Met Ser Ser Phe Lys Ser Pro Ala Tyr Asn Val Lys  
 1 5 10 15  
 Ala Val Pro Val Glu Lys Ile Val Ala Asn Ser Tyr Asn Pro Asn Val  
 20 25 30  
 Val Ala Pro Pro Glu Met Lys Leu Leu Glu Leu Ser Ile Trp Glu Asp  
 35 40 45  
 Gly Tyr Thr Met Pro Leu Val Cys Tyr Tyr Arg Glu Glu Glu Asp Ile  
 50 55 60  
 Tyr Glu Leu Val Asp Gly Tyr His Arg Tyr Leu Val Met Lys Thr Ser  
 65 70 75 80  
 Val Arg Ile Tyr Lys Arg Glu Asn Gly Leu Leu Pro Val Thr Val Ile  
 85 90 95  
 Asn Lys Asp Ile Ser Asn Arg Met Ala Ser Thr Ile Arg His Asn Arg  
 100 105 110  
 Ala Arg Gly Met His Ser Leu Glu Leu Met Thr Gly Ile Val Ala Glu  
 115 120 125  
 Leu Ser Lys Ser Gly Met Ser Asp Ser Trp Ile Met Arg Asn Ile Gly  
 130 135 140  
 Met Asp Lys Asn Glu Leu Leu Arg Phe Lys Gln Ile Ser Gly Leu Ala  
 145 150 155 160  
 Glu Leu Phe Arg Asp Arg Ser Phe Gly Leu Ser Asp Asp Trp Leu Glu  
 165 170 175  
 Glu

&lt;210&gt; 6748

&lt;211&gt; 92

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6748

Ser	Ser	Cys	Val	Gly	Trp	Asn	Ser	Leu	Phe	Ile	Asn	Leu	Gln	Ala	Ala
1				5				10					15		
Gly	Gly	Ala	Ala	Phe	Phe	Val	Leu	Cys	Asn	Glu	Lys	Ile	Pro	Ser	Ala
				20				25				30			
Met	Leu	Asn	Pro	Arg	Gly	Leu	Leu	Gly	Asp	Val	Leu	Gly	His	Ala	Leu
				35				40				45			
Pro	Ser	His	Pro	Val	Pro	Phe	Phe	Met	Phe	Gly	Lys	Leu	Lys	Lys	Ile
				50				55				60			
Leu	Tyr	Ile	Gln	Asp	Val	Pro	Phe	Pro	Tyr	Arg	Arg	Val	Trp	Asn	Arg
				65				70				75			80
Leu	Pro	Val	Phe	Arg	Ala	Ile	Phe	Pro	Leu	Gly	Tyr				
				85				90							

&lt;210&gt; 6749

&lt;211&gt; 501

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6749

Asn	Leu	Pro	Leu	Ala	Thr	Lys	Pro	Pro	Leu	Pro	Ser	Ile	Ala	Phe	Ala
1					5				10				15		
His	Leu	Ser	Ile	Ala	Ala	Tyr	Phe	Cys	Phe	Tyr	Lys	Ile	Lys	Arg	Ser
					20				25				30		
Thr	Ser	Met	Thr	Asn	Val	Asn	Arg	Ile	Thr	Leu	Ile	Thr	Val	Cys	Leu
					35				40				45		
Ala	Ala	Ile	Leu	Pro	Gly	Asn	Gly	Leu	Trp	Ala	Gln	Gln	Thr	Glu	Ala
					50				55			60			
Thr	Gly	Thr	Ser	Gln	Thr	Ala	Asp	Ser	Val	Ser	Met	Pro	Ala	Gln	Trp
					65				70			75			80
Asp	Leu	Gln	Ser	Cys	Ile	Asp	Tyr	Ala	Leu	Gln	Gln	Asn	Ile	Ser	Ile
					85				90			95			
Arg	Arg	Asn	Arg	Ile	Asn	Ala	Gln	Ser	Thr	Gln	Val	Asp	Val	Lys	Thr
					100				105			110			
Ala	Lys	Ala	Ala	Leu	Phe	Pro	Ser	Leu	Ser	Phe	Ser	Ser	Ser	Gln	Asn
					115				120			125			
Leu	Val	Asn	Arg	Pro	Tyr	Gln	Glu	Ser	Ser	Ser	Ile	Ile	Ser	Gly	Ser
					130				135			140			
Glu	Val	Leu	Lys	Ser	Ser	Asn	Lys	Thr	Thr	Tyr	Asn	Gly	Asn	Tyr	Gly
					145				150			155			160
Leu	Asn	Ala	Gln	Trp	Thr	Val	Tyr	Asn	Gly	Ser	Lys	Arg	Leu	Lys	Thr
					165				170			175			
Ile	Glu	Gln	Glu	Lys	Leu	Asn	Asn	Arg	Val	Ala	Asp	Leu	Asp	Val	Ala
					180				185			190			
Thr	Ser	Glu	Asn	Asp	Ile	Glu	Gln	Ser	Ile	Ala	Gln	Val	Tyr	Ile	Gln
					195				200			205			
Ile	Leu	Tyr	Ala	Ala	Glu	Ser	Val	Lys	Val	Asn	Glu	Asn	Thr	Leu	Gln
					210				215			220			
Val	Ser	Glu	Ala	Gln	Arg	Asp	Arg	Gly	Lys	Gln	Leu	Leu	Asp	Ala	Gly
					225				230			235			240
Ser	Ile	Ala	Arg	Ser	Asp	Tyr	Ala	Gln	Leu	Glu	Ala	Gln	Val	Ser	Thr
					245				250			255			

Asp Arg Tyr Gln Leu Val Thr Ala Gln Ala Thr Leu Gln Asp Tyr Lys  
     260                  265                  270  
 Leu Gln Leu Lys Gln Leu Leu Glu Leu Asp Gly Glu Gln Glu Met Gln  
     275                  280                  285  
 Val Tyr Leu Pro Ala Leu Gly Asp Glu Asn Val Leu Ser Pro Leu Pro  
     290                  295                  300  
 Thr Lys Thr Asp Val Phe Arg Ser Ala Val Ala Leu Arg Pro Glu Ile  
     305                  310                  315                  320  
 Glu Ala Ser Lys Leu Ser Val Glu Ala Ser Glu Leu Gly Ile Gly Ile  
     325                  330                  335  
 Ala Lys Ser Gly Tyr Leu Pro Ser Val Ser Leu Thr Ala Gly Ile Gly  
     340                  345                  350  
 Thr Asn His Thr Ser Gly Ser Asp Phe Thr Phe Gly Glu Gln Val Lys  
     355                  360                  365  
 Asn Gly Trp Asn Asn Ser Ile Gly Leu Ser Ile Ser Val Pro Ile Phe  
     370                  375                  380  
 Asn Asn Arg Gln Thr Lys Ser Ala Val Glu Lys Ala Lys Leu Gln Tyr  
     385                  390                  395                  400  
 Gln Thr Ser Gln Leu Thr Leu Leu Asp Glu Gln Lys Thr Leu Tyr Lys  
     405                  410                  415  
 Thr Ile Glu Gly Leu Trp Leu Asp Ala Asn Ser Ala Gln Gln Arg Tyr  
     420                  425                  430  
 Ala Ala Ala Ile Glu Lys Leu His Ser Thr Gln Thr Ser Tyr Glu Leu  
     435                  440                  445  
 Val Ser Glu Gln Phe Asn Ala Gly Met Lys Asn Thr Val Glu Leu Leu  
     450                  455                  460  
 Thr Glu Lys Asn Asn Leu Leu Gln Ala Gln Gln Glu Leu Leu Gln Ser  
     465                  470                  475                  480  
 Lys Tyr Met Ala Ile Leu Asn Thr Gln Leu Leu Lys Phe Tyr Gln Gly  
     485                  490                  495  
 Asp Lys Ile Thr Leu  
     500

<210> 6750  
 <211> 61  
 <212> PRT  
 <213> B.fragilis

<400> 6750  
 Lys Lys Arg Pro Thr Phe Thr Gly Arg Thr Phe Phe Val Leu Phe Glu  
   1                  5                  10                  15  
 Tyr Val Ile Tyr Ile Gln Gln Leu Asn Ser Met Ile Ile Lys Ile Thr  
   20                  25                  30  
 Thr Gln Gln Asn Gly Ile Arg Glu Asn His Phe Gly Arg Ile Gly Leu  
   35                  40                  45  
 Ser His Leu Asn Val Thr Tyr Val Ile Ile Met Thr Asn  
   50                  55                  60

<210> 6751  
 <211> 518  
 <212> PRT  
 <213> B.fragilis

<400> 6751  
 Gly Lys Asn Pro Ala Phe Asn Leu Lys Arg Gly Ser Leu Tyr Pro Ile  
   1                  5                  10                  15  
 Ser Gly Val Phe Ser Gln Ala Cys Asp Glu Ile Gly Met Leu Phe Trp  
   20                  25                  30  
 Ala Glu Asn Ala Phe Trp Gly Ile Gly Gly His Lys Gly Asp Asp Tyr

35	40	45
Trp Asn Ala Ser Ala Tyr Pro Val Asn Glu Ser Asp Arg Ala Glu Phe		
50	55	60
Glu Asn Ser Val Lys Ala Gln Leu Lys Glu Leu Ile Arg Ile His Arg		
65	70	75
Asn His Pro Ser Ile Ile Val Trp Ser Met Ser Asn Glu Pro Phe Phe		
85	90	95
Thr Ala Pro Glu Thr Ile Asp Pro Met Arg Lys Leu Leu Glu Glu Thr		
100	105	110
Val Lys Leu Ser Lys Gln Leu Asp Pro Thr Arg Pro Ala Ala Val Gly		
115	120	125
Gly Ala Gln Arg Pro Leu Gly Glu Lys Arg Ile Asp Lys Leu Gly Asp		
130	135	140
Ile Ala Gly Tyr Asn Gly Asp Gly Ser Tyr Ile Pro Glu Phe Gln Gln		
145	150	155
Pro Gly Met Pro Thr Val Val Ser Glu Tyr Gly Ser Thr Thr Ala Asp		
165	170	175
Arg Pro Gly Glu Tyr Asp Pro Gly Trp Gly Asp Leu Ala Lys Asn Asn		
180	185	190
Ala Gln Asn Gly Phe Pro Trp Arg Ser Gly Gln Ala Ile Trp Cys Ala		
195	200	205
Phe Asp His Gly Ser Ile Ala Gly Ser Ala Leu Gly Lys Met Gly Ile		
210	215	220
Ile Asp Tyr Phe Arg Ile Pro Lys Arg Ala Trp Tyr Trp Tyr Arg Asn		
225	230	235
Ala Tyr Lys Gly Ile Thr Pro Pro Glu Trp Pro Gln Glu Gly Thr Pro		
245	250	255
Ala Arg Ile Ser Leu Val Ala Asp Arg Thr Asp Asn Ile Lys Ala Asp		
260	265	270
Gly Thr Asp Asp Val Met Leu Ser Ile Thr Ile Leu Asp Ala Asn Gly		
275	280	285
Lys Pro Val Ser Asn Ser Pro Ala Val Lys Leu Asp Ile Leu Ser Gly		
290	295	300
Pro Gly Glu Phe Pro Thr Gly Thr Ser Ile Leu Phe Glu Lys Glu Ser		
305	310	315
Asp Ile Arg Ile Leu Asp Gly Lys Ala Ala Ile Glu Phe Arg Ser Tyr		
325	330	335
Tyr Ala Gly Glu Thr Val Ile Arg Ala Thr Ser Pro Gly Leu Glu Pro		
340	345	350
Ala Glu Val Lys Ile Arg Phe Thr Gly Ser Thr Pro Tyr Thr Glu Ala		
355	360	365
Phe Lys Val Lys Glu Arg Pro Tyr Thr Arg Phe Glu Thr Pro Thr Lys		
370	375	380
Thr Asp Asn Leu Gln Thr Phe Gly Pro Asn Asn Pro Thr Phe Cys Ser		
385	390	395
Ser Ser Ala Asn Gly His Ser Ser Ala Phe Ala Ala Asp Gly Asp Glu		
405	410	415
Ser Thr Tyr Trp Gln Ala Ser Glu Asn Asp Pro Glu Arg Ser Trp Thr		
420	425	430
Leu Asp Thr Glu Lys Gly Leu Ser Ile Arg His Ile Arg Ile Ala Phe		
435	440	445
Pro Asp Leu Ala Pro Tyr Gln Tyr Lys Val Glu Val Ser Met Asp Arg		
450	455	460
Glu His Trp Ser Leu Ile Pro Asp Gln Thr Asn Asn Lys Gln Asn Glu		
465	470	475
Asn Ile Arg Met Ile Gln Val Val Pro Gly Ile Gln Gly Arg Phe Val		
485	490	495
Arg Ile Ser Phe Thr Gly Glu Lys Ala Ala Ile Thr Asp Val Gln Val		
500	505	510

Ile Gly Thr Val Ile Asp  
515

<210> 6752

<211> 496

<212> PRT

<213> B.fragilis

<400> 6752

Ile His Ile Thr Ile Met Ala Thr Gln Asn Lys Thr Asp Ile Gly Leu			
1	5	10	15
Ile Gly Leu Ala Val Met Gly Glu Asn Leu Ala Leu Asn Met Glu Ser			
20	25	30	
Arg Gly Trp Ser Val Ser Val Tyr Asn Arg Thr Val Pro Gly Val Glu			
35	40	45	
Glu Gly Val Val Glu Arg Phe Ile Asn Gly Arg Ala Lys Gly Lys His			
50	55	60	
Ile Glu Gly Phe Thr Asp Ile Glu Ala Phe Val Glu Ser Ile Ala Leu			
65	70	75	80
Pro Arg Lys Ile Met Met Met Val Arg Ala Gly Ser Pro Val Asp Glu			
85	90	95	
Leu Met Glu Gln Leu Phe Pro Tyr Leu Ser Pro Gly Asp Ile Leu Ile			
100	105	110	
Asp Gly Gly Asn Ser Asn Tyr Glu Asp Thr Asn Arg Arg Val Lys Leu			
115	120	125	
Ala Glu Ser Lys Gly Phe Leu Phe Val Gly Ala Gly Val Ser Gly Gly			
130	135	140	
Glu Glu Gly Ala Leu Asn Gly Ala Ser Ile Met Pro Gly Gly Ser Glu			
145	150	155	160
Lys Ala Trp Glu Glu Val Lys Pro Ile Leu Gln Ser Ile Ala Ala Gln			
165	170	175	
Ala Pro Asp Gly Thr Pro Cys Cys Gln Trp Val Gly Pro Ala Gly Ser			
180	185	190	
Gly His Phe Val Lys Met Ile His Asn Gly Ile Glu Tyr Gly Asp Met			
195	200	205	
Gln Leu Ile Ala Glu Ala Tyr Trp Val Met Lys Glu Leu Leu Asp Met			
210	215	220	
Thr Asn Glu Glu Met Ala Ser Val Phe Thr Arg Trp Asn Glu Gly Lys			
225	230	235	240
Leu Arg Ser Tyr Leu Ile Glu Ile Thr Gly Asn Ile Leu Arg His Lys			
245	250	255	
Asp Lys Thr Gly Val Tyr Leu Ile Asp Lys Ile Leu Asp Ala Ala Gly			
260	265	270	
Gln Lys Gly Thr Gly Lys Trp Ser Val Ile Asn Ala Met Glu Leu Gly			
275	280	285	
Met Pro Leu Gly Leu Ile Ala Thr Ala Val Phe Glu Arg Ser Leu Ser			
290	295	300	
Ala Arg Lys Glu Leu Arg Glu Ala Ala Ala Arg Gln Tyr Gln Cys Arg			
305	310	315	320
His Ser Met Ala Val Tyr Asn Lys Gln Asp Thr Glu Lys Glu Ile Phe			
325	330	335	
Ser Ala Leu Tyr Ala Ser Lys Leu Val Ser Tyr Ala Gln Gly Phe Ala			
340	345	350	
Val Leu Gln Arg Ala Ser Asp Thr Phe Gly Trp Asn Leu Asp Leu Ala			
355	360	365	
Ser Ile Ala Arg Met Trp Arg Gly Gly Cys Ile Ile Arg Ser Val Phe			
370	375	380	
Leu Asn Asp Ile Ala Ala Ala Phe Glu Ala Lys Glu Lys Pro Lys His			
385	390	395	400

Leu Leu Leu Ala Pro Tyr Phe Glu Glu Glu Ile Lys Gly Leu Leu Ser  
     405                  410                  415  
 Gly Trp Lys Asn Leu Val Ala Gln Ala Met Arg Glu Glu Leu Pro Val  
     420                  425                  430  
 Pro Ala Phe Ser Ser Ala Leu Asn Tyr Phe Tyr Ser Leu Val Ser Ala  
     435                  440                  445  
 Asp Leu Pro Ala Asn Leu Val Gln Ala Gln Arg Asp Tyr Phe Gly Ala  
     450                  455                  460  
 His Thr Phe Glu Arg Lys Asp Glu Leu Arg Gly Val Phe Phe His Glu  
     465                  470                  475                  480  
 Asn Trp Thr Gly His Gly Asp Thr Lys Ser Gly Thr Tyr Asn Val  
     485                  490                  495

<210> 6753

<211> 136

<212> PRT

<213> B.fragilis

<400> 6753

Ser Gly Ser Thr Gln Val Trp His Val His Cys Ile Thr Ile Phe Arg  
 1                  5                  10                  15  
 Cys Leu Val Ile Val Ser Arg Ser Arg Thr Ile Lys Phe Ser Arg Ile  
     20                  25                  30  
 Met Lys Lys Val Leu Val Ala Leu Val Ile Val Met Gly Leu Gly Phe  
     35                  40                  45  
 Ser Val Ala Lys Ala Asp Glu Pro Leu Lys Lys Ser Pro Lys Val  
     50                  55                  60  
 Glu Gln Arg Asp Ser Arg Glu Asp Phe Thr Pro Ile Glu Val Asn Asn  
     65                  70                  75                  80  
 Leu Pro Glu Ala Val Ile Asp Glu Leu Ser Cys Glu Gly Ala Leu Ile  
     85                  90                  95  
 Lys Glu Ala Phe Ile Ala Tyr Ser Arg Ser Glu Gly Lys Leu Tyr Lys  
     100                  105                  110  
 Val Ile Ile Leu Ser Ser Asp Phe His Glu Gln Ala Val Phe Leu Asn  
     115                  120                  125  
 Glu Arg Gly Asn Ile Leu Asn Arg  
     130                  135

<210> 6754

<211> 74

<212> PRT

<213> B.fragilis

<400> 6754

Lys Ala Cys Thr Gln Gly His Gly Val Asp Gln Glu Glu Val Ser  
 1                  5                  10                  15  
 Pro Asn Gln Val Ala Ala Leu Arg Cys Leu Phe Thr Pro Glu Tyr Thr  
     20                  25                  30  
 Arg Pro Ala Ala Ile Gly Thr Thr Arg Ala Leu Leu Gln Gly Val Glu  
     35                  40                  45  
 Phe Gln Lys Val Ser Ala Ile Gly Gly Ala Ile Asn Gly Gly Ser Gly  
     50                  55                  60  
 Ser Gly Asp Ile Val Asp Asp Pro Thr Ala  
     65                  70

<210> 6755

<211> 383

<212> PRT

<213> B.fragilis

&lt;400&gt; 6755

Thr Met Gly Thr Tyr Ile Phe Leu Gln Gln Tyr Trp Trp Leu Val Val  
 1 5 10 15  
 Ser Leu Leu Gly Ala Ile Leu Val Phe Leu Leu Phe Val Gln Gly Gly  
 20 25 30  
 Asn Ser Leu Leu Phe Cys Leu Gly Lys Thr Glu Glu His Arg Lys Met  
 35 40 45  
 Met Val Asn Ser Thr Gly Arg Lys Trp Glu Phe Thr Phe Thr Thr Leu  
 50 55 60  
 Val Thr Phe Gly Gly Ala Phe Phe Ala Ser Phe Pro Leu Phe Tyr Ser  
 65 70 75 80  
 Thr Ser Phe Gly Gly Ala Tyr Trp Leu Trp Met Ile Ile Leu Phe Ser  
 85 90 95  
 Phe Val Leu Gln Ala Val Ser Tyr Glu Phe Gln Ser Lys Ala Gly Asn  
 100 105 110  
 Leu Leu Gly Lys Lys Thr Tyr Gln Thr Phe Leu Val Ile Asn Gly Val  
 115 120 125  
 Val Gly Pro Leu Leu Leu Gly Gly Ala Val Ala Thr Phe Phe Thr Gly  
 130 135 140  
 Ser Asp Phe Tyr Ile Asn Lys Gly Asn Met Val Asn Glu Val Met Pro  
 145 150 155 160  
 Val Ile Ser His Trp Gly Asn Gly Trp His Gly Leu Asp Ala Leu Thr  
 165 170 175  
 Asn Ile Trp Asn Val Ile Leu Gly Leu Ala Val Phe Phe Leu Ala Arg  
 180 185 190  
 Ala Leu Gly Ala Leu Tyr Phe Ile Asn Asn Ile Ala Asp Lys Glu Leu  
 195 200 205  
 Val Ala Lys Cys Arg Arg Ser Leu Ile Ala Asn Thr Val Leu Phe Leu  
 210 215 220  
 Val Phe Phe Leu Ala Phe Val Val Arg Thr Leu Leu Ala Asp Gly Tyr  
 225 230 235 240  
 Ala Val Asn Pro Glu Thr Lys Glu Ile Tyr Met Glu Pro Tyr Lys Tyr  
 245 250 255  
 Phe Asn Asn Phe Ile Glu Met Pro Val Val Leu Ile Val Phe Leu Val  
 260 265 270  
 Gly Val Val Leu Val Leu Phe Gly Ile Gly Lys Thr Leu Leu Lys Lys  
 275 280 285  
 Thr Phe Asp Lys Gly Ile Trp Phe Val Gly Ile Gly Thr Val Leu Thr  
 290 295 300  
 Val Leu Ala Leu Leu Leu Thr Ala Gly Tyr Asn Asn Thr Ala Tyr Tyr  
 305 310 315 320  
 Pro Ser Asn Thr Asp Ile Gln Ser Ser Leu Thr Leu Ala Asn Ser Cys  
 325 330 335  
 Ser Ser Gln Phe Thr Leu Lys Thr Met Ala Tyr Val Ser Ile Leu Val  
 340 345 350  
 Pro Phe Val Ile Ala Tyr Ile Phe Tyr Ala Trp Arg Ser Ile Asp Asn  
 355 360 365  
 Arg Lys Ile Asp Ala Lys Glu Met Asp Glu Gly Gly His Ala Tyr  
 370 375 380

&lt;210&gt; 6756

&lt;211&gt; 62

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6756

Ile Thr Arg Phe Pro Ser Asn Tyr Ile Leu Asp Phe Ile Phe Ile Ser  
 1 5 10 15

Ser Lys Ile Met Leu Ile Tyr Asn His Phe Met Ile Val Ser Tyr Phe  
 20 25 30  
 Lys Thr Thr Asp Lys Ile Ile Tyr Phe Phe Thr Phe Leu Phe Asn Leu  
 35 40 45  
 Phe Trp Val Ser Met Pro Leu Ala Ser Asn Val Phe Ile Val  
 50 55 60

<210> 6757

<211> 236

<212> PRT

<213> B.fragilis

<400> 6757

Ser Ser Ile Ala Val Lys Leu Arg Cys Ala Ile Val Asp Asp Glu Pro  
 1 5 10 15  
 Leu Ala Leu Ser Leu Leu Glu Ser Tyr Val Asn Lys Thr Pro Phe Leu  
 20 25 30  
 Glu Leu Ala Gly Lys Tyr Ser Ser Ala Val Gln Ala Met Lys Glu Leu  
 35 40 45  
 Pro Gly Asn Gln Ile Asp Leu Leu Phe Leu Asp Ile Gln Met Pro Glu  
 50 55 60  
 Leu Asn Gly Leu Glu Phe Ser Lys Met Val Ala Pro Arg Thr Arg Ile  
 65 70 75 80  
 Val Phe Thr Thr Ala Phe Gly Gln Tyr Ala Ile Asp Gly Tyr Arg Val  
 85 90 95  
 Asn Ala Leu Asp Tyr Leu Leu Lys Pro Ile Ser Tyr Val Asp Phe Leu  
 100 105 110  
 Gln Ala Ala Asn Lys Ala Leu Gln Trp Phe Glu Leu Val Gln Lys Pro  
 115 120 125  
 Glu Glu Val Asp Ser Ile Phe Val Lys Ser Asp Tyr Lys Leu Val Gln  
 130 135 140  
 Val Glu Leu Lys Lys Ile Leu Tyr Ile Glu Gly Leu Lys Asp Tyr Ile  
 145 150 155 160  
 Lys Ile Tyr Thr Glu Asp Ala Pro Lys Pro Ile Leu Ser Leu Met Ser  
 165 170 175  
 Met Lys Ser Met Glu Glu Leu Leu Pro Pro Ala Arg Phe Met Arg Val  
 180 185 190  
 His Arg Ser Phe Ile Val Gln Lys Asn Lys Ile Arg Ile Ile Asp Arg  
 195 200 205  
 Gly Arg Ile Val Phe Asp Lys Thr Tyr Ile Pro Val Ser Asp Ser Tyr  
 210 215 220  
 Lys Gln Thr Phe Gln Thr Phe Leu Asp Glu Arg Ser  
 225 230 235

<210> 6758

<211> 450

<212> PRT

<213> B.fragilis

<400> 6758

Pro Asn Thr Ala Ala Val Thr Ser Cys Cys Ala Thr Asp Lys Ser Arg  
 1 5 10 15  
 Lys Thr Ala Leu Thr Arg Thr Phe Phe Pro Gln Pro Lys His Trp Pro  
 20 25 30  
 Leu Cys Arg Tyr Lys Lys Asn Asn Arg Gln Ile Ile Met Asn Gly Thr  
 35 40 45  
 Asn Leu Phe Lys Ile Ala Leu Arg Ala Leu Asn Asn Lys Leu Arg  
 50 55 60  
 Ala Phe Leu Thr Met Leu Gly Ile Ile Gly Val Ala Ser Val Ile

65	70	75	80
Thr Met Leu Ala Ile Gly Gln Gly Ser Lys	Lys Ser Ile Gln Ala Gln		
85	90	95	
Ile Ser Glu Met Gly Ser Asn Met Ile Met Ile His Pro Gly Ala Asp			
100	105	110	
Met Arg Gly Gly Val Arg Gln Asp Pro Ser Ala Met Gln Thr Leu Lys			
115	120	125	
Leu Thr Asp Tyr Glu Thr Leu Arg Asp Glu Thr Ser Phe Leu Ala Ala			
130	135	140	
Val Ser Pro Asn Val Ser Ser Gly Gln Leu Ile Ala Gly Asn Asn			
145	150	155	160
Asn Tyr Pro Ser Ser Val Asn Gly Val Gly Thr Glu Tyr Leu Glu Ile			
165	170	175	
Arg Gln Leu Ser Ile Asp Asn Gly Glu Met Phe Ser Glu Ala Asp Ile			
180	185	190	
Gln Ser Ser Ala Lys Val Cys Val Ile Gly Lys Thr Ile Val Asp Asn			
195	200	205	
Leu Phe Pro Asp Gly Glu Asp Pro Val Gly Arg Ile Val Arg Phe Ser			
210	215	220	
Lys Ile Pro Phe Arg Val Val Gly Val Leu Lys Ser Lys Gly Tyr Asn			
225	230	235	240
Ser Met Gly Met Asp Gln Asp Asp Ile Val Leu Ala Pro Tyr Thr Thr			
245	250	255	
Val Met Lys Arg Leu Leu Ala Gln Thr Tyr Leu Gln Gly Ile Tyr Ala			
260	265	270	
Ser Ala Leu Ser Glu Asp Met Thr Asp Asn Ala Thr Glu Glu Ile Thr			
275	280	285	
Glu Leu Leu Arg Arg Asn His Lys Leu Lys Glu Ala Asp Asp Asp Asp			
290	295	300	
Phe Thr Ile Arg Ser Gln Gln Glu Leu Ser Ser Met Leu Asn Ser Thr			
305	310	315	320
Thr Asp Leu Met Thr Thr Leu Leu Ala Cys Ile Ala Gly Ile Ser Leu			
325	330	335	
Val Val Gly Gly Ile Gly Ile Met Asn Ile Met Tyr Val Ser Val Thr			
340	345	350	
Glu Arg Thr Arg Glu Ile Gly Leu Arg Met Ser Val Gly Ala Arg Gly			
355	360	365	
Val Asp Ile Leu Ser Gln Phe Leu Ile Glu Ala Ile Leu Ile Ser Ile			
370	375	380	
Thr Gly Gly Leu Ile Gly Val Ile Ile Gly Cys Gly Ala Ser Trp Val			
385	390	395	400
Val Lys Ser Val Ala His Trp Pro Ile Phe Ile Gln Pro Trp Ser Val			
405	410	415	
Phe Leu Ser Phe Ala Val Cys Thr Val Thr Gly Val Phe Phe Gly Trp			
420	425	430	
Tyr Pro Ala Lys Lys Ala Ala Asp Leu Asp Pro Ile Glu Ala Ile Arg			
435	440	445	
Tyr Glu			
450			

&lt;210&gt; 6759

&lt;211&gt; 84

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6759

Val Val Asn Leu Arg Lys Asn Lys Ser Lys Met Glu Tyr Lys Phe Asp

1 5 10 15

Glu Gln Ser Val Lys Glu Leu Met Glu Trp Ala Gln Thr Ala Gln Leu

20	25	30
Pro Gln Glu Leu Glu Leu Ser Lys Ala Glu Arg Ile Phe Asp Val Lys		
35	40	45
Leu Cys Ile Glu Ser Asp Leu Ser Cys Ile Arg Ala His Tyr Pro Asp		
50	55	60
Ala Phe Tyr Asn Pro Ala Ile Thr Arg Leu Tyr Arg Ile Arg Glu Lys		
65	70	75
Leu Glu Glu Lys		80

&lt;210&gt; 6760

&lt;211&gt; 429

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6760

Gln Ile Tyr Tyr Lys Tyr Met Gln Pro Leu Ala Glu Arg Leu Arg Pro		
1	5	10
Lys Thr Leu Asp Asp Tyr Ile Gly Gln Lys His Leu Val Gly Pro Gly		
20	25	30
Ala Ile Leu Arg Lys Met Ile Asp Ala Gly Arg Ile Ser Ser Phe Ile		
35	40	45
Leu Trp Gly Pro Pro Gly Val Gly Lys Thr Thr Leu Ala Gln Ile Ile		
50	55	60
Ala Asn Lys Leu Glu Thr Pro Phe Tyr Thr Leu Ser Ala Val Thr Ser		
65	70	75
Gly Val Lys Asp Val Arg Glu Val Ile Asp Arg Ala Lys Ser Asn Lys		
85	90	95
Phe Phe Thr Gln Ser Ser Pro Ile Leu Phe Ile Asp Glu Ile His Arg		
100	105	110
Phe Ser Lys Ser Gln Gln Asp Ser Leu Leu Gly Ala Val Glu His Gly		
115	120	125
Thr Val Thr Leu Ile Gly Ala Thr Thr Glu Asn Pro Ser Phe Glu Val		
130	135	140
Ile Arg Pro Leu Leu Ser Arg Cys Gln Leu Tyr Thr Leu Lys Ser Leu		
145	150	155
Glu Lys Glu Asp Leu Leu Glu Leu Leu Gln Arg Ala Ile Thr Thr Asp		
165	170	175
Val Val Leu Lys Glu Arg Lys Ile Glu Leu Lys Glu Thr Gly Ala Met		
180	185	190
Leu Arg Phe Ser Gly Gly Asp Ala Arg Lys Leu Leu Asn Ile Leu Glu		
195	200	205
Leu Val Val Glu Ser Glu Thr Glu Glu Thr Val Ile Ile Thr Asp Asp		
210	215	220
Leu Val Thr Glu Arg Leu Gln Gln Asn Pro Leu Ala Tyr Asp Lys Asp		
225	230	235
Gly Glu Met His Tyr Asp Ile Ile Ser Ala Phe Ile Lys Ser Ile Arg		
245	250	255
Gly Ser Asp Pro Asp Gly Ala Ile Tyr Trp Leu Ala Arg Met Val Glu		
260	265	270
Gly Gly Glu Asp Pro Ala Phe Ile Ala Arg Arg Leu Val Ile Ser Ala		
275	280	285
Ala Glu Asp Ile Gly Leu Ala Asn Pro Asn Ala Leu Leu Leu Ala Asn		
290	295	300
Ala Cys Phe Asp Thr Leu Met Lys Ile Gly Trp Pro Glu Gly Arg Ile		
305	310	315
Pro Leu Ala Glu Thr Thr Ile Tyr Leu Ala Thr Ser Pro Lys Ser Asn		
325	330	335
Ser Ala Tyr Asn Ala Ile Asn Asp Ala Leu Ala Leu Val Arg Glu Thr		

340	345	350
Gly Asn Leu Pro Val Pro Leu His	Leu Arg Asn Ala Pro Thr Lys Leu	
355	360	365
Met Lys Gln Leu Gly Tyr Gly	Gln Glu Tyr Lys Tyr Ala His Asn Tyr	
370	375	380
Glu Gly Asn Phe Val Lys Gln Gln	Phe Leu Pro Asp Glu Ile Lys Ala	
385	390	395
Lys Gln Leu Trp Gln Pro Gln His	Asn Pro Ala Glu Gln Lys His Ala	
405	410	415
Glu Arg Met Lys Gln Leu Trp Gly	Asn Glu Lys Asn Tyr	
420	425	

&lt;210&gt; 6761

&lt;211&gt; 525

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6761

Arg Leu Thr Leu Thr Asn Asp Met	Ile Glu Ser Ile Asp Thr Ser	
1	5	10
Leu Ile Asp Trp Ser Arg Ala Gln	Phe Ala Leu Thr Ala Met Tyr His	
20	25	30
Trp Ile Phe Val Pro Leu Thr Leu	Gly Leu Ala Val Val Met Ala Ile	
35	40	45
Met Glu Thr Leu Tyr Tyr Lys	Thr Gly Asn Glu Phe Trp Lys Arg Thr	
50	55	60
Ala Lys Phe Trp Met Lys Leu Phe	Gly Ile Asn Phe Ala Val Gly Val	
65	70	75
Ala Thr Gly Leu Ile Leu Glu Phe	Gly Thr Asn Trp Ser Asn	
85	90	95
Tyr Ser Trp Phe Val Gly Asp Ile	Phe Gly Ala Pro Leu Ala Ile Glu	
100	105	110
Gly Ile Leu Ala Phe Phe Met	Glu Ala Thr Phe Ile Ala Val Met Phe	
115	120	125
Phe Gly Trp Asp Lys Val Ser	Lys Arg Phe His Leu Ile Ser Thr Trp	
130	135	140
Leu Thr Gly Leu Gly Ala Thr Ile	Ser Ala Trp Trp Ile Leu Val Ala	
145	150	155
Asn Ala Trp Met Gln His Pro Val	Gly Met Gln Phe Asn Pro Asp Thr	
165	170	175
Val Arg Asn Glu Met Val Asp	Phe Met Ala Val Ala Phe Ser Pro Val	
180	185	190
Ala Val Asn Lys Phe Phe His	Thr Val Leu Ser Ser Trp Val Leu Gly	
195	200	205
Ala Val Phe Val Ile Gly Ile	Ser Cys Trp Phe Leu Leu Lys Lys Arg	
210	215	220
Asp Lys Glu Phe Ala Val Ala Ser	Ile Lys Ile Gly Ala Val Phe Gly	
225	230	235
Leu Val Ala Ser Leu Leu Thr Val	Trp Thr Gly Asp Gly Ser Gly Tyr	
245	250	255
Ala Ile Ala Gln Thr Gln Pro Met	Lys Leu Ala Ala Val Glu Gly Tyr	
260	265	270
Tyr Glu Gly Gln Asn Gly Ala	Gly Leu Val Ala Val Gly Leu Leu Asn	
275	280	285
Pro Glu Lys Lys Thr Tyr Asp	Asp Gly Gln Asp Pro Phe Leu Phe Arg	
290	295	300
Ile Glu Ile Pro Lys Met Leu Ser	Leu Leu Ala Glu Arg Lys Val Asp	
305	310	315
Ala Phe Val Pro Gly Ile Lys Asn	Ile Ile Glu Gly Gly Tyr Glu Leu	

325	330	335	
Lys Asp Gly Thr	Lys Ala Leu Ser Ala	Ala Glu Lys Ile Glu	
340	345	350	
Lys Lys Ala Ile Ala Ala Leu Ala	Thr Tyr Arg Thr Ala	Lys Lys Glu	
355	360	365	
Gly Asp Glu Ala Ala Ala Lys Glu Ala	Tyr Thr Thr Leu Gln Glu Asn		
370	375	380	
Val Pro Tyr Phe Gly Tyr	Gly Tyr Ile Lys Asp Val Asn Gln Leu Val		
385	390	395	400
Pro Asn Val Pro Leu Asn Phe Tyr Ala	Phe Arg Val Met Val Ile Leu		
405	410	415	
Gly Gly Tyr Phe Ile Leu Phe Phe Ile	Leu Val Leu Phe Phe Ala Tyr		
420	425	430	
Lys Lys Asp Leu Ser Lys Ile Arg Trp	Met Gln Tyr Val Ala Leu Trp		
435	440	445	
Thr Ile Pro Leu Ala Tyr Ile Ala Gly Gln Ala	Gly Trp Val Val Ala		
450	455	460	
Glu Cys Gly Arg Gln Pro Trp Ala Ile Arg Asp	Met Leu Pro Thr Ser		
465	470	475	480
Val Ser Ile Ser Lys Leu Asp Val Gly Ser Val Gln	Thr Thr Phe Phe		
485	490	495	
Ile Phe Leu Val Leu Phe Thr Val Met Leu Ile Ala Glu	Ile Gly Ile		
500	505	510	
Met Val Arg Glu Ile Lys Lys Gly Pro Thr Val Asn His			
515	520	525	

&lt;210&gt; 6762

&lt;211&gt; 142

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6762

Val Asn Met Tyr	Met Lys Thr Leu Phe Leu Lys Arg	Leu Met Phe Ile	
1	5	10	15
Phe Leu Leu Phe Val Ala Cys Tyr	Ser Ser Ala Gln Ser	Leu Arg Ser	
20	25	30	
Leu Pro Phe Gln Lys Arg Asp Ser	Thr Leu Ile Arg Ile Ala Lys Glu		
35	40	45	
Thr Leu Lys Lys Ala Pro Glu Tyr	Leu Ile Glu Asn Gly Ala Pro		
50	55	60	
Ile Ile Ser Lys His Arg Val Arg	Tyr Leu Thr Pro Ala Glu Glu Lys		
65	70	75	80
Glu Val Pro Glu Phe Ser Thr Phe	Tyr Gly Ala Lys Ser Gly Gln Val		
85	90	95	
Tyr Tyr Ile Val Glu Phe Pro Gln Asp	Glu Ser Ile Glu Ser Phe Asp		
100	105	110	
Ala Gly Phe Val Ala Gln Val	Tyr Ile Trp Glu Asp Thr Ser Arg Pro		
115	120	125	
Phe Ser Ile Ala Leu Gly Asn Ser	Leu Ile Met Asp Leu Lys		
130	135	140	

&lt;210&gt; 6763

&lt;211&gt; 446

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6763

Ile Tyr Arg Leu Gly Asn Ser Asp	Leu Tyr His Gln Lys Glu Gln Glu		
1	5	10	15

Lys Lys Ile Met Phe Gly Leu Met Asp Cys Asn Asn Phe Tyr Ala Ser  
     20                 25                 30  
 Cys Glu Arg Val Phe Asn Pro Ala Leu Asn Gly Lys Pro Ile Val Val  
     35                 40                 45  
 Leu Ser Asn Asn Asp Gly Cys Val Ile Ala Arg Ser Asn Glu Ala Lys  
     50                 55                 60  
 Ala Leu Gly Ile Lys Met Gly Val Pro Ala Tyr Gln Ile Lys Asp Asp  
     65                 70                 75                 80  
 Ile Gln Lys Tyr Gly Ile Ser Val Phe Ser Ser Asn Tyr Thr Leu Tyr  
     85                 90                 95  
 Gly Asp Met Ser Gly Arg Val Met Ser Ile Leu Ala Glu Gln Val Pro  
    100                 105                110  
 Glu Met Glu Val Tyr Ser Ile Asp Glu Ala Phe Leu Asn Leu Glu Gly  
    115                 120                125  
 Ile Arg Asp Ile Gln Ser Leu Gly Thr Asp Ile Ile Asn Lys Val Ile  
    130                 135                140  
 Arg Gly Thr Gly Ile Pro Val Ser Leu Gly Ile Ala Pro Thr Lys Thr  
    145                 150                155                160  
 Leu Ala Lys Val Ala Asn Lys Phe Ala Lys Lys Tyr Pro Ala Tyr Asn  
    165                 170                175  
 Arg Leu Cys Ile Ile Asp Thr Glu Glu Lys Arg Thr Lys Ala Leu Gln  
    180                 185                190  
 Leu Thr Glu Ile Gly Asp Ile Trp Gly Ile Gly His Arg Gln Val Ala  
    195                 200                205  
 Lys Leu Glu Lys Gln Gly Val Lys Thr Ala Tyr Asp Phe Thr Glu Leu  
    210                 215                220  
 Pro Glu Ser Trp Val Arg Lys Asn Met Thr Val Val Gly Glu Arg Thr  
    225                 230                235                240  
 Trp Lys Glu Leu Gln Gly Ile Ser Cys Ile Asp Met Glu Thr Thr Pro  
    245                 250                255  
 Pro Ala Lys Lys Gln Ile Cys Thr Ser Arg Ser Phe Gly Lys Met Val  
    260                 265                270  
 Glu Asp Ile Asp Thr Met Ser Glu Ala Ile Ala Thr His Ala Ser Thr  
    275                 280                285  
 Cys Ala Lys Lys Leu Arg Gln Gln Lys Gly Tyr Ala Met Ser Leu Met  
    290                 295                300  
 Val Phe Ile His Thr Asn Asn Phe Arg Lys Asp Ser Pro Gln Tyr Trp  
    305                 310                315                320  
 Arg Asn Thr Val Val His Leu Pro Ile Pro Thr Asn Asp Thr Leu Glu  
    325                 330                335  
 Ile Val His Tyr Ala Leu Ala Gly Leu Lys Thr Ile Phe Met Gln Gly  
    340                 345                350  
 Tyr Gln Tyr Lys Lys Ala Gly Val Ile Ile Thr Glu Ile Thr Asp Ser  
    355                 360                365  
 Thr Gln Leu Gly Leu Phe Asp Ser Val Asp Arg Glu Lys Arg Glu Arg  
    370                 375                380  
 Leu Gln Gln Thr Ile Asp Lys Ile Asn Gly Lys His Ser Arg Leu Val  
    385                 390                395                400  
 Lys Leu Ala Ile Gln Gly Thr Gly Arg Asn Trp Lys Leu Lys Gln Lys  
    405                 410                415  
 Gln Leu Ser Gly His Tyr Thr Asp Ile Asn Gln Ile Ile Ser Ile  
    420                 425                430  
 Asn Cys Thr Tyr Pro Thr Ala Cys Gln Arg Lys Gln Tyr Ser  
    435                 440                445

&lt;210&gt; 6764

&lt;211&gt; 287

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6764

Lys	Gln	Leu	His	Met	Tyr	Lys	Asn	Ile	Leu	Ile	Leu	Gly	Arg	Gly	Ile
1				5					10					15	
Gly	Gln	Val	Met	Phe	Gln	Asn	Asn	Ala	Leu	Ser	Gly	Gly	Leu	Met	Leu
								20		25				30	
Leu	Gly	Ile	Ala	Phe	Asn	Ser	Trp	Gln	Leu	Ala	Val	Leu	Ser	Val	Leu
								35		40			45		
Gly	Thr	Val	Val	Ser	Thr	Leu	Thr	Ala	Ser	Leu	Ser	Gly	Tyr	Asp	Lys
								50		55			60		
Glu	Asp	Ile	Cys	Asn	Gly	Leu	Tyr	Gly	Phe	Asn	Gly	Thr	Leu	Val	Gly
								65		70			75		80
Ile	Ala	Ile	Gly	Val	Phe	Met	Glu	Ile	Asn	Val	Thr	Ser	Ile	Leu	Leu
								85		90			95		
Leu	Ile	Ser	Gly	Ser	Ala	Phe	Ser	Thr	Trp	Val	Ala	Arg	Cys	Phe	Arg
								100		105			110		
Tyr	Gln	Asn	Arg	Val	Ser	Gly	Leu	Thr	Ala	Pro	Phe	Ile	Phe	Val	Val
								115		120			125		
Trp	Leu	Leu	Leu	Val	Gly	Cys	His	Tyr	Leu	Tyr	Pro	Ser	Leu	Leu	Leu
								130		135			140		
Ser	Ser	Ser	Leu	Glu	Lys	Pro	Glu	Leu	Thr	Met	Asp	Ile	Phe	Arg	Ser
								145		150			155		160
Phe	Cys	Leu	Asn	Ile	Gly	Gln	Val	Met	Phe	Gln	Gly	Asn	Ile	Leu	Ser
								165		170			175		
Gly	Leu	Phe	Phe	Leu	Leu	Gly	Ile	Leu	Ile	Asn	Ser	Arg	Met	Asn	Ala
								180		185			190		
Leu	Tyr	Thr	Leu	Thr	Gly	Ala	Ile	Leu	Pro	Leu	Phe	Met	Ile	Leu	Tyr
								195		200			205		
Pro	His	Thr	Asp	Leu	Ala	Ala	Trp	Asn	Leu	Gly	Leu	Leu	Gly	Tyr	Asn
								210		215			220		
Gly	Val	Leu	Cys	Ala	Ile	Ala	Leu	Gly	Asp	Lys	Thr	Gly	Ile	Gly	Val
								225		230			235		240
Val	Lys	Ala	Ile	Phe	Ser	Ile	Ile	Leu	Ser	Ile	Val	Leu	Gln	Leu	Thr
								245		250			255		
Gly	Met	His	Met	Gly	Ile	Val	Thr	Leu	Thr	Ala	Pro	Phe	Val	Phe	Ser
								260		265			270		
Val	Trp	Ile	Thr	Gly	Gly	Leu	Phe	Ser	Val	Phe	Arg	Ser	Lys	Ser	
								275		280			285		

&lt;210&gt; 6765

&lt;211&gt; 359

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6765

Leu	Asn	Arg	His	Thr	Met	Lys	Arg	Val	Phe	Val	Phe	Gln	Asp	Phe	Lys
1					5				10				15		
Ser	Gln	Lys	Phe	Trp	Ser	Ile	Asp	Val	Arg	Gly	Thr	Asp	Val	Ile	Val
								20		25			30		
Asn	Tyr	Gly	Lys	Leu	Gly	Thr	Asp	Gly	Gln	Thr	Gln	Val	Lys	Asn	Phe
								35		40			45		
Ser	Ser	Ala	Gly	Glu	Ala	Glu	Lys	Ala	Ala	Gly	Lys	Leu	Ile	Ala	Glu
								50		55			60		
Lys	Thr	Lys	Lys	Gly	Tyr	Val	Glu	Thr	Leu	Glu	Glu	Val	Ala	Lys	Glu
								65		70			75		80
Met	Lys	Val	Glu	Ala	Lys	Lys	Tyr	Ala	Leu	Ser	Tyr	Asp	Glu	Ala	Glu
								85		90			95		
Glu	Gly	Val	Asn	Leu	Met	Asp	Lys	Ile	Leu	Lys	Asp	Lys	Lys	Leu	Pro
								100		105			110		

Ser Leu Lys Gln Ile Thr Ile Gly Cys Trp Gly Tyr Glu Gly Glu Asp  
     115             120             125  
 Cys Ser Asp Ile Ala Asp Gly Ile Val Glu Asn Lys Glu Lys Phe Ala  
     130             135             140  
 His Phe Glu Gly Leu Phe Trp Gly Asp Ile Asp Phe Glu Glu Gln Glu  
     145             150             155             160  
 Ile Ser Trp Ile Glu Gln Val Asp Leu Ser Pro Val Leu Asp Ala Met  
     165             170             175  
 Pro Leu Leu Asn Asn Leu Lys Ile Lys Gly Thr Asn Asn Leu Ser Ile  
     180             185             190  
 Gly Lys Lys Pro Arg Pro Asn Leu Lys Ser Leu Glu Ile Ile Ser Gly  
     195             200             205  
 Gly Leu Pro Asp Ser Val Val Glu Asp Ile Leu Gly Ser Asp Leu Pro  
     210             215             220  
 Asn Leu Glu Lys Leu Val Leu Tyr Val Gly Val Glu Asp Tyr Gly Phe  
     225             230             235             240  
 Asp Gly Asp Met Asn Val Phe Arg Pro Leu Phe Ser Lys Asp Arg Phe  
     245             250             255  
 Pro Asn Leu Lys Trp Leu Gly Ile Val Asp Ala Glu Glu Gln Asn Ala  
     260             265             270  
 Val Val Glu Met Phe Leu Glu Ser Asp Ile Leu Pro Gln Leu Glu Thr  
     275             280             285  
 Met Asp Ile Ser Ala Gly Val Leu Thr Asp Glu Gly Ala Arg Leu Leu  
     290             295             300  
 Leu Asp His Val Asp Lys Ile Lys His Leu Lys Phe Ile Asn Met Lys  
     305             310             315             320  
 Tyr Asn Tyr Leu Ser Asp Glu Met Lys Lys Glu Leu Gln Lys Ser Leu  
     325             330             335  
 Pro Met Lys Ile Asp Val Ser Asp Ser Gln Glu Tyr Asp Asp Asp Tyr  
     340             345             350  
 Ser Tyr Pro Met Ile Thr Glu  
     355

&lt;210&gt; 6766

&lt;211&gt; 258

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6766

Pro Ser Gly Gln Gln Glu Glu Arg Lys Ile Ser Met Asn Lys Thr Val  
 1              5             10             15  
 Ile Glu Leu Gln Asn Ile Lys Arg Asn Phe Gln Val Gly Asp Glu Thr  
     20             25             30  
 Val His Ala Leu Arg Gly Val Ser Phe Thr Ile Thr Glu Gly Glu Phe  
     35             40             45  
 Val Thr Ile Met Gly Thr Ser Gly Ser Gly Lys Ser Thr Leu Leu Asn  
     50             55             60  
 Thr Leu Gly Cys Leu Asp Thr Pro Thr Ser Gly Glu Tyr Leu Leu Asp  
     65             70             75             80  
 Gly Ile Ser Val Arg Thr Met Ser Lys Pro Gln Arg Ala Ile Leu Arg  
     85             90             95  
 Asn Arg Lys Ile Gly Phe Val Phe Gln Ser Tyr Asn Leu Leu Pro Lys  
     100            105            110  
 Thr Thr Ala Val Glu Asn Val Glu Leu Pro Leu Met Tyr Asn Ser Gly  
     115            120            125  
 Val Ser Ala Ser Glu Arg Arg Arg Arg Ala Ile Glu Ala Leu Gln Ala  
     130            135            140  
 Val Gly Leu Gly Glu Arg Leu Glu His Lys Ser Asn Gln Met Ser Gly  
     145            150            155            160

Gly Gln Met Gln Arg Val Ala Ile Ala Arg Ala Leu Val Asn Asn Pro  
           165               170               175  
 Ala Val Ile Leu Ala Asp Glu Ala Thr Gly Asn Leu Asp Thr Arg Thr  
           180               185               190  
 Ser Phe Glu Ile Leu Val Leu Phe Gln Lys Leu His Ala Glu Gly Arg  
           195               200               205  
 Thr Ile Ile Phe Val Thr His Asn Pro Glu Ile Ala Gln Tyr Ser Ser  
           210               215               220  
 Arg Asn Ile Val Leu Arg Asp Gly Gln Val Lys Glu Asp Ser Thr Asn  
           225               230               235               240  
 Pro Asp Ile Leu Ser Ala Ala Glu Ala Leu Ala Ala Leu Pro Val Gln  
           245               250               255  
 Glu Glu

&lt;210&gt; 6767

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6767

Ser Asn Tyr Lys Glu Ile Met Ala Asn Leu Phe Ile Thr Ile Val Ser  
   1               5               10               15  
 Thr Lys Lys Met Leu Asn Gly Lys His Lys Val Arg Ile Ala Val Ser  
   20               25               30  
 His Asn Leu Ala Thr Arg Tyr Ile Pro Thr Asn Ile Ile Ile Asp Ala  
   35               40               45  
 Glu Asn Glu Phe Lys Asn Gly Lys Val Val Lys Arg Pro Asp Lys Asp  
   50               55               60  
 Ile Leu Asn Ala Arg Leu Lys Lys Ile Tyr Asp Met Tyr Tyr Glu Arg  
   65               70               75               80  
 Cys Met Lys Ile Glu Tyr Ala Asn Thr Leu Thr Cys Thr Gln Leu Ile  
   85               90               95  
 Lys Tyr Cys Ile Phe Ala Glu Ser Arg  
   100               105

&lt;210&gt; 6768

&lt;211&gt; 505

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6768

Cys Ile Ser Lys Lys Arg Asn Met Ser Lys Phe Val Met Thr Ile Phe  
   1               5               10               15  
 Gly Ala Ser Gly Asp Leu Thr Lys Arg Lys Leu Met Pro Ala Leu Tyr  
   20               25               30  
 Ser Leu Tyr Val Ala Lys Arg Leu Pro Glu Glu Phe Glu Ile Leu Gly  
   35               40               45  
 Val Gly Arg Thr Val Tyr Glu Asp Ala Asp Tyr Arg Thr Tyr Ile Tyr  
   50               55               60  
 Asn Glu Met Glu Lys Phe Val Lys Ser Glu Glu Gln Asn Lys Glu Lys  
   65               70               75               80  
 Met Asp Ala Phe Val Gly His Leu His Tyr Leu Ala Ile Asp Pro Ala  
   85               90               95  
 Leu Glu Ser Gly Tyr Gly Gln Leu Arg Leu Arg Ile Glu Glu Leu Ser  
   100               105               110  
 Gly Asp Ser Arg Pro Asp Asp Leu Leu Phe Tyr Leu Ala Thr Pro Pro  
   115               120               125  
 Ser Leu Tyr Gly Val Ile Pro Leu His Leu Lys Ser Val His Leu Asn

130	135	140
Lys	Gly Arg Ala Arg	Ile Ile Val Glu Lys Pro Phe Gly Tyr Asp Leu
145	150	155
Glu	Ser Ala Glu Lys	Leu Asn Lys Ile Tyr Ala Ser Val Phe Asp Glu
	165	170
His	Gln Ile Tyr Arg	Ile Asp His Phe Leu Gly Lys Glu Thr Ala Gln
	180	185
Asn	Leu Leu Ala Phe Arg	Phe Ala Asn Gly Ile Phe Glu Pro Leu Trp
	195	200
Asn	Arg Asn Tyr Ile Asp	Tyr Val Glu Val Thr Ala Val Glu Asn Leu
	210	215
Gly	Ile Glu Gln Arg	Gly Phe Tyr Asp Thr Thr Gly Ala Leu Arg
	225	230
Asp	Met Val Gln Asn	His Leu Ile Gln Leu Val Ala Leu Thr Ala Met
	245	250
Glu	Pro Pro Ala Val Phe Asn Ala Asp	Asn Phe Arg Asn Glu Val Val
	260	265
Lys	Val Tyr Glu Ser Leu Thr	Pro Leu Thr Glu Thr Asp Leu Ser Glu
	275	280
His	Ile Val Arg Gly Gln	Tyr Thr Ala Gly Gly Asn Lys Arg Gly Tyr
	290	295
Arg	Glu Glu Lys Asn	Ile Ser Pro Asp Ser Arg Thr Glu Thr Tyr Ile
	305	310
Ala	Met Lys Leu Gly	Ile Ser Asn Trp Arg Trp Ser Gly Val Pro Phe
	325	330
Tyr	Ile Arg Thr Gly Lys	Gln Met Pro Thr Lys Val Thr Glu Ile Val
	340	345
Val	His Phe Arg Glu Thr	Pro His Gln Met Phe His Cys Ala Gly Gly
	355	360
Asn	Cys Pro Arg Ala Asn	Lys Leu Ile Leu Arg Leu Gln Pro Asn Glu
	370	375
Gly	Ile Val Leu Lys Phe	Gly Met Lys Val Pro Gly Pro Gly Phe Glu
	385	390
Val	Lys Gln Val Thr Met Asp	Phe Ser Tyr Asp Gln Leu Gly Gly Val
	405	410
Pro	Gly Gly Asp Ala Tyr	Ala Arg Leu Ile Glu Asp Cys Ile Leu Gly
	420	425
Asp	Gln Thr Leu Phe Thr	Arg Ser Asp Ala Val Glu Ala Ser Trp His
	435	440
Phe	Phe Asp Pro Ile Leu Arg	Tyr Trp Asn Glu His Pro Glu Ala Pro
	450	455
Leu	Tyr Gly Tyr Pro Ala	Gly Thr Trp Gly Pro Leu Glu Ser Glu Ala
	465	470
Met	Met His Glu His	Gly Ala Glu Trp Thr Asn Pro Cys Lys Asn Leu
	485	490
Thr	Asn Thr Asp Gln	Tyr Cys Glu Leu
	500	505

&lt;210&gt; 6769

&lt;211&gt; 79

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6769

Leu	Glu	Leu	Asn	Val	Ser	Arg	Leu	Leu	Pro	Ala	Phe	Tyr	Lys	Phe	Ala
1				5				10					15		

Arg	Asn	Val	Phe	Ser	Leu	Val	Leu	Ile	Gly	Gly	Leu	Ala	Ala	Gln	Lys
					20			25					30		

Val	Gly	Glu	Glu	Lys	Gln	Ala	Glu	Asn	Glu	Glu	His	Asp	Lys	Glu	Phe
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

35	40	45
His Lys Tyr Asn Glu Pro Gln Gly Thr Ser Pro Gly Ser Cys Phe Glu		
50	55	60
Ser Leu Leu His Arg Asn Ser Arg Cys Gly Ala Val Tyr Ser Ser		
65	70	75

&lt;210&gt; 6770

&lt;211&gt; 690

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6770

Ser Ile Met Lys Gln Ile Gln Pro Val Phe Leu Ala Met Lys Phe Ser			
1	5	10	15
Phe Leu Ile Phe Phe Phe Ser Leu Pro Val Gly Ala Gln Ser Ile			
20	25	30	
Phe Gln Lys Tyr Gly Arg Phe Leu Thr Glu Pro Arg Ser Tyr Val Cys			
35	40	45	
Tyr Arg Thr Asp Gly Lys Leu Lys Ile Asp Gly Lys Leu Asp Glu Val			
50	55	60	
Ser Trp Gln Lys Ala Lys Pro Thr Ala Pro Phe Val Asp Ile Ser Gly			
65	70	75	80
Glu Gly Phe Pro Thr Pro Lys Tyr Glu Thr Thr Ala Lys Met Leu Trp			
85	90	95	
Asp Asp Glu Tyr Leu Tyr Ile Gly Ala Met Leu Gln Glu Asp Asp Ile			
100	105	110	
Lys Ala Arg Leu Thr Gln Arg Asp Thr Ile Ile Tyr Tyr Asp Asn Asp			
115	120	125	
Phe Glu Val Phe Ile Asp Pro Asp Trp Asp Gly His Asn Tyr Phe Glu			
130	135	140	
Ile Glu Thr Asn Ala Arg Gly Val Ile Phe Asp Leu Met Leu Asp Arg			
145	150	155	160
Pro Tyr Arg Ser Ser Gly Asn Phe Met Val Gln Trp Asp Cys Pro Gly			
165	170	175	
Leu Lys Leu Ala Ile His Arg Glu Gly Thr Leu Asn Lys Ser Lys Asp			
180	185	190	
Lys Asp Lys Tyr Trp Ser Val Glu Met Ala Ile Pro His Lys Ala Leu			
195	200	205	
Thr Met Asn Phe Asn Asn Pro Leu Lys Ala Gly Asn Cys Trp Arg Ile			
210	215	220	
Asn Phe Ser Arg Val Gln Trp Leu Lys Ala Gly Gly Pro Glu Glu Asn			
225	230	235	240
Trp Val Trp Thr Pro Thr Gly Lys Val Asp Met His Met Pro Asp Arg			
245	250	255	
Trp Gly Tyr Leu Phe Phe Ala Ala Glu Lys Val Gly Thr Pro Glu His			
260	265	270	
Thr Phe Ala Leu Pro Tyr Asn Ala Ser Val Tyr Lys Leu Leu Trp Ala			
275	280	285	
Met Phe Tyr Val Gln Gln Glu Arg Tyr Ala Lys Glu Lys Asn Tyr Leu			
290	295	300	
Arg Thr Glu Gln Asp Phe Phe Leu Thr Asp Ala Glu Leu Lys Gly Leu			
305	310	315	320
Pro Gln Gly Ala Gln Ile Ser Val Glu Ala Thr Trp Asn Thr Tyr Gln			
325	330	335	
Ile Ala Ile Thr Val Pro Gly Glu Gly Arg Arg Tyr Ile Ile Asn Asn			
340	345	350	
Glu Gly Arg Phe Trp Thr Glu Lys Val Ala Pro Arg Gln Val Lys Asn			
355	360	365	
Trp Val Trp Thr Arg Ile Asn Lys Ser Lys Ser Glu Thr Asp Tyr Arg			

370	375	380
Gln Trp Phe Ala Leu Leu Lys Glu Cys Gly Ile Ser Gly Val Met Phe		
385	390	395
Glu Gly Tyr Asp Glu Asn Leu Tyr Arg Met Cys Lys Glu Ala Gly Leu		400
405	410	415
Glu Ala His Phe Trp Lys Trp Thr Met Asn Arg Ala Glu Leu Leu Asn		
420	425	430
Val His Pro Asp Trp Phe Ala Val Asn Arg Lys Gly Glu Ser Thr His		
435	440	445
Asp Lys Pro Ala Tyr Val Asp Tyr Tyr Arg Phe Leu Cys Pro Asn His		
450	455	460
Glu Gly Val Ala Gln Tyr Leu Ala Asp Asp Tyr Val Lys Ile Ala His		
465	470	475
Leu Pro Tyr Val Asp Gly Val His Leu Asp Tyr Val Arg Phe Pro Asp		480
485	490	495
Val Val Leu Pro Val Ser Leu Trp Lys Asn Tyr Gly Ile Glu Gln Thr		
500	505	510
Ser Glu His Pro Glu Tyr Asp Tyr Cys Tyr Cys Asp Val Cys Arg Thr		
515	520	525
Lys Phe Lys Glu Gln Thr Gly Arg Asp Pro Leu Glu Leu Lys Tyr Pro		
530	535	540
Met Glu Asp Gln Ser Trp Ile Asn Phe Arg Leu Asp Ala Ile Ser Arg		
545	550	555
Val Val Asp Gln Ile Thr Lys Ala Val Lys Ala Asp Gly Lys Ala Ile		
565	570	575
Ser Ala Ala Val Phe Pro Gly Pro Ser Met Ala Lys Lys Met Val Arg		
580	585	590
Gln Asp Trp Gly Asn Trp Ser Leu Asp Ala Tyr Phe Pro Met Ile Tyr		
595	600	605
Asn Gly Phe Tyr Tyr Glu Gly Pro Glu Trp Ile Gly Arg Ser Val Gln		
610	615	620
Glu Ser Val Lys Thr Val Asp Gly Arg Ala Lys Val Tyr Ala Gly Leu		
625	630	635
Met Phe Pro Asp Ile Lys Asn Asp Phe Glu Lys Ala Leu Asp Glu Ala		
645	650	655
Phe Asp Asn Gly Ala Ser Gly Val Ser Phe Phe Asp Gly Pro Ser Asp		
660	665	670
Glu Tyr Leu His Arg Phe Lys Ala Tyr Leu Asp Lys Lys Gly Leu Lys		
675	680	685
Thr Glu		
690		

<210> 6771  
<211> 297  
<212> PRT  
<213> B.fragilis

<220>  
<221> UNSURE  
<222> (260)  
<223> Identity of amino acid sequences at the above locations are unknown.

<400> 6771  
Asp His Ala Asp Arg Pro Gly Phe Asp Tyr Ser Glu Trp Glu Lys Ile  
1 5 10 15  
Gly Leu Ala His Ser Phe Ser Thr Pro Tyr Phe Met Ser Lys Asp Phe  
20 25 30  
Tyr Val Gly Tyr Gly Trp Tyr Arg Lys Ala Phe Pro Val Lys Lys Glu  
35 40 45

Ile Leu Gly Lys Lys Ser Phe Leu Glu Phe Asp Gly Val Phe Gln Glu  
 50 55 60  
 Ala Glu Ile Phe Val Asn Gly His Leu Ala Gly Thr His Lys Gly Gly  
 65 70 75 80  
 Tyr Thr Gly Phe Ser Ile Asp Ile Ser Ala Tyr Leu Lys Glu Gly Lys  
 85 90 95  
 Asn Leu Val Ala Val Arg Val Asn Asn Cys Trp Arg Pro Asp Leu Ala  
 100 105 110  
 Pro Arg Ala Gly Glu His Val Phe Ser Gly Gly Ile Tyr Arg Asn Val  
 115 120 125  
 Arg Leu Val Ile Lys Pro Pro Thr Tyr Ile Asp Trp Tyr Gly Thr Trp  
 130 135 140  
 Val Thr Thr Pro Asp Leu Ala Glu Asn Lys Gly Lys Ser Gly Ser Val  
 145 150 155 160  
 His Ile Arg Thr Asp Val Cys Asn Ala Ser Gly Lys Thr Asp Thr Tyr  
 165 170 175  
 Arg Leu Leu Thr Thr Val Val Asp Ala Gln Gly Lys Glu Val Ser Ser  
 180 185 190  
 Val Ser Thr Ser Gln Val Leu Pro Asp Asn Ala Thr Tyr Thr Phe Lys  
 195 200 205  
 Gln Gln Thr Lys Glu Ile Gln Ala Pro Gln Leu Trp His Pro Asn His  
 210 215 220  
 Pro Ala Leu Tyr Lys Val Ile Ser Ser Leu Tyr His Gly Gln Glu Leu  
 225 230 235 240  
 Ile Asp Arg Tyr Glu Thr Thr Phe Gly Phe Arg Trp Phe Glu Trp Thr  
 245 250 255  
 Ala Asp Arg Xaa Phe Phe Leu Asn Gly Glu His Leu Tyr Phe Lys Gly  
 260 265 270  
 Ala Asn Val His Leu Asp His Ala Gly Trp Gly Asp Ala Val Thr Gln  
 275 280 285  
 Asn Arg Asn Ala Lys Lys Asn Leu Arg  
 290 295

<210> 6772  
<211> 341  
<212> PRT  
<213> B.fragilis

<400> 6772  
Leu Arg Ser Glu Arg Met Arg Ile Leu Val Ala Ser Asn Ser Thr Ser  
1 5 10 15  
Lys Arg Thr Asp Tyr Phe Ile Lys Ala Gly Arg Ser Leu Gly Ala Asp  
20 25 30  
Thr Cys Phe Val Thr Tyr Asp Glu Leu Ser Ala Val Leu Pro Asp Cys  
35 40 45  
Arg Asp Thr Val Val Lys Leu Glu Pro Pro Val Phe Arg Glu Ala Asp  
50 55 60  
Phe Arg Lys Tyr Asn Leu Leu Cys Glu Glu Tyr Arg Ser Leu Leu Ser  
65 70 75 80  
Arg Leu Ala Asp Met Asp Lys Ser Glu Ser Val His Phe Leu Asn Glu  
85 90 95  
Pro Ala Ala Ile Leu Cys Ala Leu Asp Lys Val Tyr Thr Gln Arg Lys  
100 105 110  
Leu Thr Gly Ala Gly Leu Lys Thr Thr Pro Leu Leu Ser Asp Ala Leu  
115 120 125  
Ser Thr Phe Asp Asp Leu Ala Ala Ile Leu Cys Arg Gln Lys Arg Gly  
130 135 140  
Gly Phe Leu Lys Pro Arg Tyr Gly Ser Gly Ala Gly Gly Ile Met Ala  
145 150 155 160

Val Arg Tyr Asn His Arg Arg Asp Glu Trp Val Ala Tyr Thr Thr Met  
           165                     170                     175  
 Ser Trp Glu Gly Gly Arg Val Cys Asn Ala Lys Arg Ile Cys Arg Leu  
           180                     185                     190  
 Thr Asn Arg Lys Glu Ile Ala Thr Leu Ala Glu Glu Val Ile Arg Cys  
           195                     200                     205  
 Gly Ala Val Leu Glu Glu Trp Met Ala Lys Glu Lys Leu Glu Gly Glu  
           210                     215                     220  
 Asn Tyr Asp Leu Arg Val Val Cys Arg Gly Asp Glu Val Asp Tyr Val  
   225                     230                     235                     240  
 Val Val Arg Cys Ser Asp Asp Ala Ile Thr Asn Leu His Leu Asn Asn  
           245                     250                     255  
 Lys Ala Arg Leu Phe Glu Glu Leu Ser Leu Ala Pro Ser Val Arg Glu  
           260                     265                     270  
 Glu Leu Phe Cys Arg Ser Ile Thr Ala Met Lys Ala Leu Gly Leu Arg  
           275                     280                     285  
 Tyr Ala Gly Ile Asp Val Leu Ile Ala Arg Asn Thr Asp Thr Pro Tyr  
           290                     295                     300  
 Ile Ile Glu Val Asn Gly Gln Gly Asp His Ile Tyr Gln Asp Met Tyr  
   305                     310                     315                     320  
 Thr Glu Asn Lys Ile Tyr Ala Asn Gln Ile Lys Thr Ile Glu Ser Leu  
           325                     330                     335  
 Phe Asn Gly Asn Arg  
           340

&lt;210&gt; 6773

&lt;211&gt; 411

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6773

Arg Tyr Asn Asp Met Lys Lys Lys Ile Ile Leu Ile Ala Val Ser  
   1              5                     10                     15  
 Leu Ala Ile Leu Ala Gly Gly Val Trp Leu Phe Gly Gly Ser Thr  
           20                     25                     30  
 Ala Lys His Lys Val Thr Tyr Ala Thr Val Ser Lys Gly Glu  
           35                     40                     45  
 Ile Ser Glu Ser Val Thr Ala Thr Gly Thr Ile Glu Pro Val Thr Glu  
           50                     55                     60  
 Val Glu Val Gly Thr Gln Val Ser Gly Ile Ile Asp Lys Ile Tyr Val  
   65                     70                     75                     80  
 Asp Tyr Asn Ala Ala Val Thr Lys Gly Gln Leu Ile Ala Glu Met Asp  
           85                     90                     95  
 Arg Val Thr Leu Gln Ser Glu Leu Ala Ser Gln Arg Ala Thr Tyr Ser  
           100                     105                     110  
 Gly Ala Lys Ala Glu Tyr Glu Tyr Gln Lys Lys Asn Tyr Glu Arg Asn  
           115                     120                     125  
 Lys Gly Leu His Glu Lys Gly Leu Ile Ser Asp Thr Asp Tyr Glu Gln  
           130                     135                     140  
 Ser Leu Tyr Asn Tyr Glu Lys Ala Lys Ser Ser Phe Glu Ser Ser Gln  
   145                     150                     155                     160  
 Ala Ser Leu Ala Lys Ala Glu Arg Asn Leu Ser Tyr Ala Thr Ile Thr  
           165                     170                     175  
 Ser Pro Ile Asp Gly Val Val Ile Ser Arg Asp Val Glu Glu Gly Gln  
           180                     185                     190  
 Thr Val Ala Ser Gly Phe Glu Thr Pro Thr Leu Phe Thr Ile Ala Ala  
           195                     200                     205  
 Asp Leu Thr Gln Met Gln Val Val Ala Asp Val Asp Glu Ala Asp Ile  
           210                     215                     220

Gly Gly Val Glu Glu Gly Gln Arg Ala Thr Phe Thr Val Asp Ala Tyr  
 225 230 235 240  
 Pro Asn Asp Val Phe Glu Gly Ile Val Thr Gln Ile Arg Leu Gly Asp  
 245 250 255  
 Ala Ser Ser Thr Ser Thr Ser Ser Thr Thr Val Val Thr Tyr  
 260 265 270  
 Glu Val Val Ile Ser Ala His Asn Pro Asp Leu Lys Leu Lys Pro Arg  
 275 280 285  
 Leu Thr Ala Asn Val Thr Ile Tyr Thr Leu Asp Arg Lys Asp Val Leu  
 290 295 300  
 Ser Val Pro Ala Arg Ala Leu Arg Phe Thr Pro Glu Lys Pro Leu Ile  
 305 310 315 320  
 Gly Asp Asn Asp Ile Val Lys Asp Cys Glu Gly Glu His Lys Ile Trp  
 325 330 335  
 Thr Arg Glu Gly Asn Thr Phe Thr Ala His Pro Val Gln Ile Gly Ile  
 340 345 350  
 Thr Asn Gly Ile Asn Thr Glu Ile Thr Gln Gly Ala Ser Glu Gly Met  
 355 360 365  
 Val Val Val Thr Glu Ala Thr Ile Gly Asn Met Pro Gly Gly Asn Val  
 370 375 380  
 Ser Pro Glu Gly Gly Gln Glu Gly Gly Glu Gln Ser Pro Phe Met  
 385 390 395 400  
 Pro Ser His Pro Gly Ser Lys Lys Lys Gly Lys  
 405 410

&lt;210&gt; 6774

&lt;211&gt; 206

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6774

Asn Pro Ala Arg Arg Glu Ala Glu Lys Ser Arg Thr Glu Ala Glu Leu  
 1 5 10 15  
 Lys Asn Leu Arg Asn Gln Leu Asn Pro His Phe Leu Leu Asn Thr Leu  
 20 25 30  
 Asn Asn Ile Tyr Ala Leu Ile Ala Phe Asp Ser Asp Lys Ala Gln Gln  
 35 40 45  
 Ala Val Gln Glu Leu Ser Lys Leu Leu Arg Tyr Val Leu Tyr Asp Asn  
 50 55 60  
 Gln Gln Asn Tyr Val Pro Leu Cys Lys Glu Val Asp Phe Ile Arg Asn  
 65 70 75 80  
 Tyr Ile Glu Leu Met Arg Ile Arg Leu Ser Gly Asn Val Glu Val Ile  
 85 90 95  
 Thr Gln Phe Asp Ile Gln Pro Asp Ser Arg Thr Glu Ile Ala Pro Leu  
 100 105 110  
 Ile Phe Ile Ser Leu Ile Glu Asn Ala Phe Lys His Gly Ile Ser Pro  
 115 120 125  
 Thr Glu Leu Ser Phe Ile His Ile Leu Ile Ser Glu Asn Lys Glu Glu  
 130 135 140  
 Ile Arg Cys Glu Ile Arg Asn Ser Tyr His Pro Lys Thr Asn Thr Asp  
 145 150 155 160  
 Lys Ser Gly Ser Gly Ile Gly Leu Glu Gln Val Arg Lys Arg Leu Glu  
 165 170 175  
 Leu Ser Tyr Pro Gly Arg Tyr Gln Trp Asp Lys Ala Ile Ser Pro Asp  
 180 185 190  
 Gly Lys Glu Tyr Ile Ser Lys Leu Leu Ile Phe Asn His Pro  
 195 200 205

&lt;210&gt; 6775

<211> 259  
<212> PRT  
<213> B.fragilis

<400> 6775

Ala	Trp	Cys	Arg	Met	Asp	Gln	Ser	Met	Gln	Glu	Leu	Asn	Lys	His	Arg
1				5				10						15	
Ser	Ile	Leu	Arg	Ala	Met	Lys	Pro	Tyr	Ile	Phe	Pro	Ser	Ser	Ile	Glu
				20				25					30		
Thr	Ala	Arg	Ala	Leu	Ile	Leu	His	Leu	Val	Lys	Leu	Met	Leu	Asp	Glu
				35				40				45			
Pro	Asp	Arg	Thr	Phe	Cys	Ile	Ala	Phe	Ser	Gly	Gly	Ser	Thr	Pro	Ala
				50				55			60				
Leu	Met	Phe	Asp	Leu	Trp	Ala	Asn	Glu	Tyr	Thr	Asp	Ile	Thr	Pro	Trp
				65				70			75		80		
Glu	Arg	Leu	Lys	Val	Phe	Trp	Val	Asp	Glu	Arg	Cys	Val	Pro	Pro	Glu
				85				90			95				
Asn	Ser	Asp	Ser	Asn	Tyr	Gly	Met	Met	Arg	Ser	Leu	Leu	Leu	Ser	Ile
				100				105			110				
Val	Pro	Ile	Pro	Tyr	Glu	Asn	Val	Phe	Arg	Ile	Gln	Gly	Glu	Lys	Asn
				115				120			125				
Pro	Lys	Lys	Glu	Ala	Ala	Arg	Tyr	Ser	Lys	Leu	Val	Met	Lys	Glu	Val
				130				135			140				
Pro	Val	Glu	Asn	Glu	Phe	Pro	Leu	Phe	Asp	Val	Val	Leu	Leu	Gly	Ala
				145				150			155		160		
Gly	Asn	Asp	Gly	His	Thr	Ser	Ser	Ile	Phe	Pro	Gly	Gln	Glu	Glu	Leu
				165				170			175				
Leu	Ser	Thr	Asp	His	Ile	Tyr	Glu	Ala	Asn	Phe	Asn	Pro	Asn	Asn	Gly
				180				185			190				
Gln	Lys	Arg	Ile	Ala	Leu	Thr	Gly	Leu	Pro	Ile	Leu	Asn	Ala	Arg	Arg
				195				200			205				
Ile	Ile	Phe	Leu	Ile	Thr	Gly	Arg	Val	Lys	Ser	Pro	Val	Val	Glu	Asp
				210				215			220				
Ile	Phe	Tyr	Ser	Gly	Asp	Thr	Gly	Pro	Ala	Ala	Tyr	Ile	Ala	His	His
				225				230			235		240		
Ala	Asp	Asn	Val	Glu	Leu	Phe	Met	Asp	Asn	Ala	Ala	Glu	Lys	Val	
				245				250			255				
Ile	Arg	Gly													

<210> 6776  
<211> 426  
<212> PRT  
<213> B.fragilis

<400> 6776

Tyr	Gln	Ala	Leu	Val	Leu	Arg	Phe	Val	Val	Leu	Ile	Asn	Asn	Leu	Phe
1				5				10				15			
Tyr	Met	Arg	Ile	Lys	Arg	Leu	Leu	Tyr	Ala	Ile	Ala	Thr	Ile	Leu	Pro
				20				25			30				
Phe	Leu	Phe	Leu	Cys	Ser	Cys	Tyr	Glu	Glu	Gln	Glu	Pro	Gln	Gln	Glu
				35				40			45				
Lys	Gln	Asp	Lys	Glu	Lys	Trp	Thr	Met	Gln	Val	Ala	Gly	Asn	Gln	Leu
				50				55			60				
Asn	Glu	Phe	Leu	Asn	Ile	Asn	Pro	Asp	Leu	Arg	Asn	Leu	Tyr	Ala	Tyr
				65				70			75		80		
Pro	Asp	Trp	Asp	Ala	Ala	Gln	Ile	Ile	Arg	Glu	Arg	Ser	Asp	Thr	Val
				85				90			95				
Ser	Tyr	Tyr	Val	Pro	Val	Val	Asp	Ile	Thr	Ala	Asp	Thr	Cys	Ser	Tyr

100	105	110
Leu Ile Ile Ala Arg Ala Ser Asn Asp Val Tyr	Leu Tyr Met Val Arg	
115 120	125	
Leu Pro Glu Glu Tyr Ser Gly Phe Asp Ser Phe	Leu Glu Glu His Leu	
130 135	140	
Lys Ile Leu Arg Ile Ile Asp Gly Ala Arg Arg	Val Pro Val Gly Tyr	
145 150	155	160
Leu His Asn Phe Pro Asp Asp Val Leu Thr Arg	Thr Arg Ser Ser Gly	
165	170	175
Ser Leu Phe Asn His Asp Arg Glu Thr Asn Thr	Glu Ile Leu Glu Asn	
180	185	190
Asn Thr Phe Val Lys Asp Asp Leu Phe Gly Ala	Gly Phe Ser Leu Pro	
195	200	205
Glu Val Thr Val Ile Gly Arg Arg Pro Thr Ser	Ser Glu Asp Pro Phe	
210 215	220	
Lys Trp Pro Phe Gly Asp Met Pro Ser Glu Ser	Pro Lys Ala Leu Pro	
225 230	235	240
Gly Leu Asp Asp Phe Phe Ser Pro Gln Gly Gly	Ser Ser Ser Leu	
245	250	255
Ser Ser Pro Gln Gln Ser Gly Ser Leu Pro Lys	Pro Glu Glu Val Ile	
260	265	270
Lys Asp Ala Thr Val Lys Ala Leu Glu Glu Ala	Trp Ser Asp Met	
275	280	285
Leu Lys Arg Ser Thr Lys Asp Gln Arg Gln Glu	Val Gly Phe Trp Ile	
290	295	300
Tyr Tyr Asp Pro Val Lys Gln Tyr Tyr Ile Gly	Lys Lys Arg Tyr	
305 310	315	320
Gly Ile Ala Val Lys Asn Asp Gly Lys Ala Arg	Gly Asn Ile Ser Leu	
325	330	335
Gly Asp Lys Ser Pro Ser Val Asn Gly Val Pro	Ala Thr Ala Lys Val	
340	345	350
Val Ala Ser Phe His Thr His Thr Pro Met Thr	Glu Ile Lys Gly Met	
355	360	365
Lys Arg Lys Val Gly Pro Ser Lys Glu Asp Lys	Gly Asn Ala Asp Lys	
370	375	380
Asn Arg Ile Pro Ile Ile Val Tyr Asp Tyr Ile	Gly Thr Lys Asp Pro	
385 390	395	400
Arg Thr Asn Asp Tyr Tyr Val Ile Gly Gly His	Lys Val Ser Asp Pro	
405	410	415
Lys Lys Met Tyr Ile Tyr Gln Pro Lys Lys		
420	425	

&lt;210&gt; 6777

&lt;211&gt; 419

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6777

Lys Gln Leu Ser Met Lys Met Ile Leu Asn Phe	Ser Glu Cys Ile Ile	
1 5	10	15
Ser Phe Phe Ser Leu Cys Leu Leu Cys Val Val	Phe Ser Cys Asp Glu	
20	25	30
Met Asp Ile Asp Gln Gly Pro Pro Thr Ser Val	Thr Arg Asn Leu Met	
35	40	45
Thr Ser Asp Gly Pro Gly Phe Lys Ile Asp Thr	Val Thr Tyr Asp Lys	
50	55	60
Ile Pro Ala Glu Tyr Ala Arg Lys Ile Leu Ser	Leu Glu Glu Pro Thr	
65 70	75	80
Ser Val Val Thr Asp Lys Ser Lys Arg Ser Phe	Arg Val Asn Glu Leu	

85	90	95
Phe Gln Ile Arg Lys Ala Asn Asp Gln	Leu Leu Ser Ile Thr Ser Tyr	
100	105	110
Ser Ala Lys Thr Val Tyr Asp Leu Ile Leu Glu Val Tyr Val Glu Gly		
115	120	125
Gly Ser Gln Tyr Val Pro Ile Ala Tyr Leu Asp Ser Ile Pro Gly Phe		
130	135	140
Ser Gln Phe Glu Phe Lys Pro Ser Leu Ile Asn Gly Asn Phe Ile Tyr		
145	150	155
Lys Lys Asp Asn Gly Val Asp Thr Leu Ser Leu Ser Ser Leu Asn Glu		160
165	170	175
Lys Arg Met Lys Phe Arg Leu Leu Ser Asp Asp Lys His Phe Glu Met		
180	185	190
Leu Ser Lys Ile Asp Ala Glu Trp Asn Ile Ser Phe Ser Asn Tyr Asp		
195	200	205
Trp Lys Pro Gly Tyr Glu Ser Gly Ser Trp Arg Glu Leu Ser Ala Ile		
210	215	220
Tyr Ala Arg Glu Trp Val Val Ile Ile Thr Asn Tyr Ala Tyr Met Met		
225	230	235
Thr Thr Pro Glu Tyr Ala Phe Ile Met Arg Asn Phe Ser Lys Ile Phe		240
245	250	255
Gly Gly Glu Leu Tyr Asp Asn Asn Arg Val Lys Phe Thr Pro Glu Lys		
260	265	270
Tyr Leu Ser Glu Glu Lys Arg Phe Lys Gln Pro His Asn Phe Val Cys		
275	280	285
Gly Arg Ser Lys Pro Ser Val Gly Gly Leu Gly Gly Asn Val Trp		
290	295	300
Gly Val Thr His Trp Asn Tyr Tyr Gly His Tyr Ala Ser Phe Ser Gly		
305	310	315
Trp Glu Ser Ile Thr His Glu Phe Met His Cys Met Gly Tyr Gly His		320
325	330	335
Ser Ser Asn Met Thr Tyr Ala Ser Gly Gly Val Gly Trp Thr Glu Phe		
340	345	350
Met Trp Gln Leu His Thr Tyr Leu Arg Gly Asn Asp Trp Leu Pro Tyr		
355	360	365
Thr Asp Arg Asn Leu Leu Gly Phe His Lys Pro Glu Asn Ala Lys Tyr		
370	375	380
Arg Asp Gly Gly Ile Asp Pro Asp Lys Leu Asn Asp Asn Lys Ile Leu		
385	390	395
Gln Phe Tyr Asn Lys Ser Lys Val Thr Gln Tyr Phe Leu Ala Asn Pro		400
405	410	415
Leu Ser Lys		

&lt;210&gt; 6778

&lt;211&gt; 158

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6778

Thr Lys Ile Ile Ile Phe Val Pro Met Lys Gln Ser Leu Thr Ser Ala

1 5 10 15

Arg Arg Pro Leu Glu Ile Leu Ile His Ile Ile Ser Trp Gly Ile Val

20 25 30

Phe Gly Phe Pro Phe Phe Ile Asp Arg Thr Gly Asp Ser Ile Asn

35 40 45

Trp His Ala Tyr Leu Arg His Ser Ala Val Pro Leu Ser Phe Val Thr

50 55 60

Val Phe Tyr Leu Asn Tyr Phe Leu Leu Val Pro His Leu Leu Phe Gln

65	70	75	80
Glu Gln Lys Asn Lys Tyr Ile Ile Tyr		Asn Ile Leu Leu Val	Cys Leu
	85	90	95
Ile Gly Leu Leu Leu His Ile Trp Gln Ser Leu Asn Ala Pro			Ala Pro
	100	105	110
Thr Leu Lys Lys Pro His Met Pro Pro Gly Trp Asp Phe Phe Arg Lys			
	115	120	125
Arg His Ser Lys Pro His Leu His His Arg Thr Glu Cys Arg His Pro			
	130	135	140
His Glu Cys Pro Val Gly Asp Lys Leu Lys Pro Arg Pro Ser			
	145	150	155

&lt;210&gt; 6779

&lt;211&gt; 515

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6779

Cys Pro Asn Met Tyr Ile Pro Asp Pro Asn Arg Met Met Ser Ser Leu			
1	5	10	15
Ser Thr Val Arg Ser Ile Tyr Tyr Arg Gly Ser Leu Glu His Cys Asn			
	20	25	30
Tyr Thr Cys Ser Tyr Cys Pro Phe Gly Arg Lys Ser Val Ser Ala Asp			
	35	40	45
Thr Thr Glu Asp Gln Glu Ala Leu Asp Arg Phe Ile Ser Arg Ile Gly			
	50	55	60
Gly Trp Lys Tyr Gly Ser Leu Arg Ile Leu Ile Ile Pro Tyr Gly Glu			
	65	70	75
			80
Ala Met Ile His Arg Tyr Tyr Arg Glu Gly Ile Met Arg Leu Ala Ala			
	85	90	95
Met Pro His Val Ile Gly Val Ser Cys Gln Thr Asn Leu Ser Phe Ser			
	100	105	110
Val Ser Arg Phe Leu Asp Glu Ala Glu Ala Glu Gln Ala Asp Val Ser			
	115	120	125
Lys Phe Arg Phe Trp Ala Ser Tyr His Pro Glu Met Val Gly Val Gly			
	130	135	140
Glu Phe Ala Ser Lys Val Glu Met Leu Arg Ala Ala Gly Ile Gly Val			
	145	150	155
			160
Cys Ala Gly Ala Val Gly Asp Pro Ser Ala Lys Glu Gln Ile Arg Lys			
	165	170	175
Leu Arg Gln Leu Leu Asp Pro Ser Val Tyr Leu Phe Val Asn Ala Met			
	180	185	190
Gln Gly Leu Arg Lys Pro Leu Ser Glu Glu Asp Ile Arg Phe Phe Gly			
	195	200	205
Glu Ile Asp Asn Leu Phe Asp Tyr Asp Arg Arg Asn Ala Lys Ala Cys			
	210	215	220
Leu Asp Gly Cys Val Gly Gly Arg Glu Thr Leu Phe Ile Asp Arg Lys			
	225	230	235
			240
Gly Asp Met Tyr Ala Cys Pro Arg Ser Gly Ile Arg Met Gly Asn Phe			
	245	250	255
Tyr Asp Asp Pro Thr Ser Asp Phe Gln Pro Phe Cys Leu Arg Lys Val			
	260	265	270
Cys Asp Trp Tyr Ile Ala Leu Ser Asn Leu Cys Asp Thr Pro Leu Arg			
	275	280	285
Arg Met Met Gly Asp Gly Ala Met Trp Arg Ile Leu Glu Arg Lys Lys			
	290	295	300
Val Glu Ala Val Phe Phe Asp Val Asp Gly Thr Leu Thr Asp Ala Gln			
	305	310	315
			320
Gly Arg Ile Pro Asp Arg Thr Val Ser Val Leu Glu Tyr Met Ala Lys			

325	330	335	
Arg Leu Pro Leu Tyr Leu Ser Thr Ala	Leu Pro Val Ser His	Ala Lys	
340	345	350	
Lys Arg Leu Gly Asn Val Phe Gly	Leu Phe Ser Gly	Gly Val Phe Ala	
355	360	365	
Asp Gly Gly Leu Leu Cys Tyr Gly	Glu Thr Ile Glu	Cys Val Pro Ile	
370	375	380	
Ala Asn Pro Val Thr Ala Gly Phe Pro	Gly Cys Arg Val Thr Arg Tyr	Tyr	
385	390	395	400
Thr Arg Glu Gly Lys Val Phe Lys	Tyr Ala Val Leu Ala	Pro Asn Thr	
405	410	415	
Arg Glu Ala Val Arg Trp Leu Thr	Glu Leu Asp Glu	Ala Tyr Gln	
420	425	430	
Leu Tyr Gln Glu Gly Arg	Leu Leu Thr Val Val	Asp Ser Lys Ala Gly	
435	440	445	
Lys Lys Asn Gly Leu Ile Thr	Leu Cys Ala Arg	Leu Gly Ile Ser Leu	
450	455	460	
Arg Glu Val Leu Val Val Gly Asn	Thr Met His Asp Trp	Pro Met Met	
465	470	475	480
Ser Val Ala Gly Tyr Ser Cys Ala	Val Met Asp Ala	Glu Glu Lys Leu	
485	490	495	
Arg Lys Leu Ser Gly Tyr Val Leu	Asn Pro Asp Ser Ile	Pro Val Phe	
500	505	510	
Phe Asp Ile			
515			

&lt;210&gt; 6780

&lt;211&gt; 395

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6780

Asn Leu Val Met Lys Lys Ile His	Ile Gly Leu Leu Pro Arg	Ile Ile	
1	5	10	15
Ile Ala Ile Ile Leu Gly Ile Ala	Ile Gly Asn Phe	Leu Pro Thr Pro	
20	25	30	
Leu Val Arg Leu Phe Val Thr Phe	Asn Ser Ile Phe	Gly Glu Phe Leu	
35	40	45	
Asn Phe Ser Ile Pro Leu Ile Ile	Leu Gly Leu Val	Thr Ile Ala Ile	
50	55	60	
Ala Asp Ile Gly Lys Gly	Ala Gly Arg Met	Leu Leu Val Thr Ala Leu	
65	70	75	80
Ile Ala Tyr Gly Ala Thr Leu Phe	Ser Gly Phe	Leu Ser Tyr Phe Thr	
85	90	95	
Gly Ala Ala Ile Phe Pro Ser	Leu Ile Thr Pro	Gly Ala Pro Leu Asp	
100	105	110	
Glu Val Ser Glu Ala Gln Gly	Ile Leu Pro Tyr	Phe Ser Val Ala Ile	
115	120	125	
Pro Pro Leu Met Asn Val Met	Thr Ala Leu Val	Leu Ala Phe Thr Leu	
130	135	140	
Gly Leu Gly Leu Ala Ser	Leu His Ser Asp	Ala Leu Lys Asn Val Ala	
145	150	155	160
Arg Asp Phe Gln Glu Ile Ile	Val Arg Met Ile	Ser Ala Val Ile Leu	
165	170	175	
Pro Leu Leu Pro Ile Tyr Ile	Phe Gly Ile Phe	Leu Asn Met Thr His	
180	185	190	
Ser Gly Gln Val Phe Ser Ile	Leu Met Val Phe	Ile Lys Ile Ile Gly	
195	200	205	
Val Ile Phe Ile Leu His Ile	Phe Leu Leu Val	Phe Gln Tyr Cys Ile	

210	215	220
Ala Ala Leu Phe Val Arg Lys Asn Pro Phe Arg	Leu Leu Gly Arg Met	
225	230	235
Leu Pro Ala Tyr Phe Thr Ala Leu Gly Thr Gln Ser	Ser Ala Ala Thr	240
245	250	255
Ile Pro Val Thr Leu Glu Gln Thr Lys Lys Asn Gly	Val Ser Ala Asp	
260	265	270
Ile Ala Gly Phe Val Ile Pro Leu Cys Ala Thr Ile His	Leu Ser Gly	
275	280	285
Ser Thr Leu Lys Ile Val Ala Cys Ala Leu Ala Leu	Met Met Met Gln	
290	295	300
Gly Met Pro Phe Asp Phe Ser Leu Phe Ala Gly Phe Ile	Phe Met Leu	
305	310	315
Gly Ile Thr Met Ile Ala Ala Pro Gly Val Pro Gly Gly	Ala Ile Met	320
325	330	335
Ala Ser Leu Gly Ile Leu Gln Ser Met Leu Gly Phe Asp	Glu Ser Ala	
340	345	350
Gln Ala Leu Met Ile Ala Leu Tyr Ile Ala Met Asp Ser	Phe Gly Thr	
355	360	365
Ala Cys Asn Val Thr Gly Asp Gly Ala Ile Ala Leu Ile	Ile Asp Lys	
370	375	380
Ile Met Gly Lys Arg Lys Thr Pro Glu Ser Leu		
385	390	395

&lt;210&gt; 6781

&lt;211&gt; 149

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6781

Asn Arg Met Met Lys Arg Lys Leu Glu Ile His Lys Ile Asp Val Ser		
1	5	10
Ser Ser Leu Pro Ile Pro Tyr Ala Asp Glu Gly Ile Arg Ala Gly Phe		
20	25	30
Pro Ser Pro Ala Gln Asp Tyr Met Glu Gln Ala Ile Asp Leu Asn Lys		
35	40	45
Glu Leu Ile Lys His Pro Ala Ser Thr Phe Phe Gly Arg Val Val Gly		
50	55	60
Asp Ser Met Arg Asp Glu Gly Ile Glu Glu Gly Asp Ile Leu Val Ile		
65	70	75
Asp Lys Ser Leu Glu Leu Gln Asp Asp Asp Leu Ala Val Cys Phe Ile		
85	90	95
Asp Gly Asp Phe Thr Val Lys Arg Val Arg Ile Glu Pro Asn Ala Val		
100	105	110
Trp Leu Ile Pro Ala Asn Pro Lys Tyr Ser Leu Ile Lys Val Thr Lys		
115	120	125
Glu Asn Glu Phe Ile Val Trp Gly Ile Val Thr Tyr Thr Ile Lys Lys		
130	135	140
Asn Arg Arg Lys Arg		
145		

&lt;210&gt; 6782

&lt;211&gt; 319

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6782

Phe Met Lys Ile Val Val Leu Asp Gly Tyr Ala Ala Asn Pro Gly Asp		
1	5	10
		15

Leu Asn Trp Asp Glu Leu Arg Thr Leu Gly Glu Cys Glu Ile Tyr Asp  
     20                       25                       30  
 Arg Thr Ala Pro Asp Glu Val Leu Glu Arg Ser Lys Asp Ala Glu Ala  
     35                       40                       45  
 Ile Leu Thr Asn Lys Val Val Ile Thr Ala Glu His Met Ala Ser Leu  
     50                       55                       60  
 Pro Asn Leu Lys Tyr Ile Gly Val Ile Ala Thr Gly Tyr Asn Ile Ile  
     65                       70                       75                       80  
 Asp Val Ala Ala Ala Lys Glu Arg Gly Ile Thr Val Thr Asn Ile Pro  
     85                       90                       95  
 Ala Tyr Ser Thr Pro Ser Val Gly Gln Met Val Phe Ala His Ile Leu  
     100                       105                       110  
 Asn Ile Thr Gln Arg Val Gln His Tyr Ala Asp Glu Val Arg Gln Gly  
     115                       120                       125  
 Arg Trp Thr Gln Ser Gln Asp Phe Cys Tyr Trp Asp Thr Pro Leu Ile  
     130                       135                       140  
 Glu Leu Leu Gly Lys Lys Ile Gly Leu Ile Gly Leu Gly Gln Thr Gly  
     145                       150                       155                       160  
 Tyr Asn Thr Ala Arg Ile Ala Ile Gly Phe Gly Met Lys Val Trp Ala  
     165                       170                       175  
 Tyr Thr Ser Lys Ser Arg Leu Gln Leu Pro Pro Glu Ile Arg Lys Ala  
     180                       185                       190  
 Glu Leu Asp Gln Ile Phe Arg Glu Cys Asp Ile Val Ser Leu His Cys  
     195                       200                       205  
 Pro Leu Thr Glu Ser Thr Arg Asp Leu Val Asn Thr Arg Arg Leu Glu  
     210                       215                       220  
 Leu Met Lys Pro Asn Ala Ile Leu Ile Asn Thr Ser Arg Gly Pro Leu  
     225                       230                       235                       240  
 Val Asn Glu His Asp Leu Ala Glu Ala Leu Asn Asn Tyr Lys Ile Tyr  
     245                       250                       255  
 Ala Ala Gly Leu Asp Val Leu Ser Thr Glu Pro Pro Arg Ala Asp Asn  
     260                       265                       270  
 Pro Leu Leu Thr Ala Arg Asn Cys Phe Ile Thr Pro His Ile Ala Trp  
     275                       280                       285  
 Ala Thr Ser Ala Ala Arg Glu Arg Leu Met Ala Ile Leu Val Asp Asn  
     290                       295                       300  
 Leu Lys Ala Tyr Ile Gly Gly Lys Pro Val Asn Asn Val Ala Lys  
     305                       310                       315

&lt;210&gt; 6783

&lt;211&gt; 267

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6783

Asn Ile Arg Val Ala Met Ile Lys Lys Ser Asp Lys Lys Asn Val Lys  
     1                       5                       10                       15  
 Lys Cys Ile Arg Thr Asn Phe Asn Phe Tyr Leu Cys Pro Asn Leu Tyr  
     20                       25                       30  
 Ala Met Leu Val Pro Thr Met Thr Thr Glu Glu Val Cys Lys Glu Ile  
     35                       40                       45  
 Lys Asn Asp Tyr Pro Ala Phe Tyr Glu Lys Met Leu Asp Asn Lys Ala  
     50                       55                       60  
 Ser Asn Tyr Arg Lys Phe Ile Lys Ala Val Leu Phe Pro Val Ile His  
     65                       70                       75                       80  
 Gln Phe Ser Trp Lys Ser Ser Ser Gly Asn Met Trp Asn Val Ile Met  
     85                       90                       95  
 Leu Ala Arg Tyr Arg Asn Glu Arg Lys Cys Pro Gly Ile Val Pro Tyr  
     100                       105                       110

Leu Lys Tyr Glu Asn Trp Gly Met Gly Ile Ile Tyr Pro Lys Asn Ile  
 115 120 125  
 Tyr Ser Asn Leu Ser Ile Ile Asp Phe Lys Pro His Phe Trp Lys Arg  
 130 135 140  
 Tyr Arg Glu Arg Gln Leu Ile Pro Asn Gly Leu Glu Gly Ile Ser Phe  
 145 150 155 160  
 Asp Glu Gln Ile Lys Tyr Phe Leu Asn Ser Gly Leu Phe Thr Phe  
 165 170 175  
 Asp Phe Arg Glu Gly Ser Asn Lys Gly His Glu Gly Phe Val Gly Tyr  
 180 185 190  
 Thr Lys Thr Gly Ile Phe Phe Gly Val Val Ile Lys Glu Leu Asp Tyr  
 195 200 205  
 Leu Cys Val Lys Thr Tyr Val Ser Ala Asn Met Leu Phe Asp Asn Gln  
 210 215 220  
 Ile Glu Ser Leu Asp Ser Ala Asp Glu Leu Arg Glu Lys Ile Leu Ser  
 225 230 235 240  
 His Pro Asp Tyr Phe Gln Lys Arg Gly Lys Leu Phe His Ile Met Asn  
 245 250 255  
 Asp Ser Ser Phe Trp Met Asp Glu Thr Ile Arg  
 260 265

&lt;210&gt; 6784

&lt;211&gt; 287

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6784

Asn His Phe Ser Met Glu Ile Asp Glu Leu Pro Ser Gly Thr Gln Asp  
 1 5 10 15  
 Gln Lys Pro Asp Ile Asp Met Asn Glu Ile Val Gly Thr His Asp Ile  
 20 25 30  
 Leu Met Leu Cys Phe Asp Thr Leu Arg Tyr Asp Val Ser Val Ala Glu  
 35 40 45  
 Glu Ala Ser Gly Gly Thr Pro Val Leu Asn Ser Cys Gly Asn Gly Trp  
 50 55 60  
 Glu Lys Arg His Ala Pro Gly Asn Phe Thr Tyr Pro Ser His Phe Ala  
 65 70 75 80  
 Ile Phe Ala Gly Phe Leu Pro Ser Pro Ala Glu Pro His Met Leu Arg  
 85 90 95  
 Asn Arg Lys Trp Leu Phe Pro Phe Gln Ala Gly Thr Gly Arg Ile  
 100 105 110  
 Pro Pro Glu Gly Ser Tyr Ala Phe Lys Glu Ala Thr Phe Val Gln Ser  
 115 120 125  
 Leu Ala Gln Val Gly Tyr Glu Thr Ile Cys Ile Gly Gly Val Asn Phe  
 130 135 140  
 Phe Ser Lys Arg Asn Asp Ile Gly Arg Val Phe Pro Gly Tyr Phe Asn  
 145 150 155 160  
 Lys Ser Tyr Trp Leu Pro Thr Phe Gly Cys Thr Asp Lys Asn Ser Ala  
 165 170 175  
 Ala Asn Gln Val Asp Phe Ala Val Asp Lys Leu Glu Lys Tyr Pro Ala  
 180 185 190  
 Asp Arg Lys Val Phe Met Tyr Ile Asn Phe Ser Ala Ile His Tyr Pro  
 195 200 205  
 Asn Cys His Tyr Val Glu Gly Lys Lys Asp Asp Lys Glu Ser His  
 210 215 220  
 Ala Ala Ala Leu Arg Tyr Val Asp Ser Gln Leu Pro Arg Leu Phe Glu  
 225 230 235 240  
 Ala Phe Arg Arg Arg Ser Asp Thr Leu Val Ile Ala Leu Ser Asp His  
 245 250 255

Gly Thr Cys Tyr Gly Glu Asp Gly Tyr Glu Tyr His Cys Ile Ser His  
 260 265 270  
 Glu Lys Val Tyr Thr Val Pro Tyr Lys His Phe Ile Leu Arg Lys  
 275 280 285

<210> 6785

<211> 432

<212> PRT

<213> B.fragilis

<400> 6785

Thr Leu Tyr Ser Gln Lys Met Asn Glu Gln Gln Ile Ser Arg Tyr  
 1 5 10 15  
 Val Ser Tyr Met Tyr Ser Tyr Pro His Lys Thr Ala Tyr Arg Thr Leu  
 20 25 30  
 Thr Pro Pro Val Ser Leu Ser Pro Tyr Leu Glu Arg Leu Glu Gly Arg  
 35 40 45  
 Glu Ala Ser Leu Tyr Phe His Ile Pro Phe Cys Ala His Lys Cys Gly  
 50 55 60  
 Tyr Cys Asn Leu Phe Ser Gln Gln Cys Cys Asp Ala Glu Arg Ile Ser  
 65 70 75 80  
 Leu Tyr Leu His Thr Met Arg Arg Gln Ala Glu Gln Leu Ser Val Ala  
 85 90 95  
 Ala Gln Gly Leu Lys Phe Thr Ser Phe Ala Val Gly Gly Thr Pro  
 100 105 110  
 Leu Ile Leu Asp Glu Gly Gln Leu Glu Glu Leu Phe Cys Leu Ala Glu  
 115 120 125  
 Leu Phe Gly Val His Pro Ser Arg Val Phe Thr Ser Val Glu Thr Ser  
 130 135 140  
 Pro Glu Tyr Thr Gln Lys Ser Val Leu Arg Gln Leu Arg Ala Arg Gly  
 145 150 155 160  
 Val Glu Arg Leu Ser Met Gly Val Gln Ser Phe Asn Glu Thr Glu Leu  
 165 170 175  
 Lys Lys Leu Lys Arg Arg Pro Gly Leu Gly Thr Val Val Gly Ala Leu  
 180 185 190  
 Glu Asn Ile Val Glu Ala Gly Phe Pro Gln Phe Asn Leu Asp Leu Ile  
 195 200 205  
 Tyr Gly Ile Glu Gly Gln Thr Val Glu Ser Phe Met Arg Ser Leu Asn  
 210 215 220  
 Thr Ala Leu Thr Tyr Arg Pro Asn Glu Leu Phe Ile Tyr Pro Leu Tyr  
 225 230 235 240  
 Val Arg Pro Gly Thr Arg Ile Asp Val Arg Ser Thr Asp Asp Ile Gly  
 245 250 255  
 Tyr Ala Ile Tyr Lys Ser Ala Arg Glu Leu Leu Val Gly Gln Gly Phe  
 260 265 270  
 Val Gln Thr Ser Met Arg Arg Phe Val Arg Arg Glu Thr Thr Glu Thr  
 275 280 285  
 Glu Phe Ser Cys Gly Asp Glu Val Met Leu Ser Cys Gly Ala Gly Gly  
 290 295 300  
 Arg Ser Tyr Leu Gly Asn Leu His Tyr Ala Thr Pro Tyr Ala Val Arg  
 305 310 315 320  
 Gln Gln Ala Ile Ala Asp Glu Ile Asp His Tyr Ile Arg Thr Thr Asp  
 325 330 335  
 Phe Met Thr Ala Ala Asn Gly Phe Leu Leu Ser Thr Glu Glu Met Gln  
 340 345 350  
 Ile Arg Phe Ile Ile Lys Asn Leu Met Tyr His Arg Gly Val Asp Leu  
 355 360 365  
 Ala Glu Tyr Glu Lys Arg Phe Gly Glu Lys Pro Asp Arg Asn Leu Phe  
 370 375 380

Arg Glu Phe Thr Asp Arg Gly Trp Ile Glu Glu Thr Gly Arg Ile Val  
 385 390 395 400  
 Arg Leu Thr Glu Glu Gly Met Ala Tyr Ser Asp Tyr Ile Gly Gln Ala  
 405 410 415  
 Phe Ile Ser Pro Ala Val Arg Lys Leu Met Ser Glu Tyr Val Tyr Pro  
 420 425 430

<210> 6786

<211> 535

<212> PRT

<213> B.fragilis

<400> 6786

Val Met Asn Thr Lys Thr Lys Leu Leu Tyr Val Gly Phe Arg Ala Leu  
 1 5 10 15  
 Asn Thr Cys Cys Leu Tyr Ala Ala Phe Leu Met Ile Thr Ser Cys Gly  
 20 25 30  
 Asp Asn Val Val Asn Pro Asp Ser Pro Glu Pro Asp Gly Glu Asp Met  
 35 40 45  
 Ile Pro Val Thr Val Ser Arg Val Glu Asp Gly Ser Tyr Met Glu Ser  
 50 55 60  
 His Val Asp Thr Pro Asp Thr Thr Gly Gly Arg Thr Leu Val Asp Glu  
 65 70 75 80  
 Trp Val Pro Val Lys Glu Pro Pro Ala Ser Arg Ala Ile Pro Ala Ala  
 85 90 95  
 Val Pro Tyr Glu Gly Pro Ser Ala Val Arg Met Thr Leu Arg Glu Glu  
 100 105 110  
 Pro Gln Val Thr Thr Arg Ala Ala Thr Leu Gly Asn Asp Ile Tyr Phe  
 115 120 125  
 Arg Leu Ile Ala Phe Arg Lys Val Gly Ser Asn Tyr Val Phe Gln Ser  
 130 135 140  
 Ala Ala Asp Phe Thr Thr Asn Gly Ala Ser Ala Pro Thr Leu Arg Gln  
 145 150 155 160  
 Gly Asn Leu Leu Thr Arg Ala Gly Thr Val Arg Val Ile Gly Tyr Ser  
 165 170 175  
 Phe Asn Ser Thr Ala Ala Met Gly Thr Ile Pro Ser Ser Tyr Thr Tyr  
 180 185 190  
 Asn Ser Thr Ser Val Thr Ile Pro Asp Met Asn Ser Asp Phe Met Val  
 195 200 205  
 Tyr Asp Ser Gly Asp Ile Ala Asn Val Ser Thr Ile Ser His Asn Leu  
 210 215 220  
 Ser Val Ser Phe Thr Gln Lys Leu Cys Lys Leu Thr Val Lys Leu Ser  
 225 230 235 240  
 Leu Ser Gln Phe Gly Ser Asn Thr Phe Thr Asn Cys Thr Gly Val Tyr  
 245 250 255  
 Val Ser Gln Gly Gly Asn Ala Ser Ala Trp Thr Ile Gly Pro Ser Thr  
 260 265 270  
 Asn Asn Val Ser Ala Asn Thr Gly Asn Thr Pro Thr Phe Asn Ile Ala  
 275 280 285  
 Asn Asn Ser Thr Ala Thr Val Arg Leu Val Pro Phe Ser Gly Ser Arg  
 290 295 300  
 Ala Ile Thr Val His Ile Gly Thr Leu Lys Leu Ser Asn Tyr Phe Asn  
 305 310 315 320  
 Ala Asn Asn Arg Asn Ile Thr Ser Ser Gln Asn Val Gln Leu Leu Pro  
 325 330 335  
 Gly Lys Ser Tyr Thr Ile Thr Leu Lys Phe Glu Leu Gly Ile Gln Leu  
 340 345 350  
 Ala Ala Ser Asp Ile Asn Leu Thr Gln Asn Gly Cys Thr Ala Ser Asp  
 355 360 365

Lys Asn Asp Leu Ala Lys Leu Arg Trp Ala Thr Gly Asn Leu Lys Ser  
 370 375 380  
 Thr Gly Asn Val Asn Tyr Val Trp Ala Ser Ser Gln Thr Glu Gly Gly  
 385 390 395 400  
 His Phe Tyr Ser Phe Asn Lys Leu Tyr Asp Gly Ser Thr Gly Asp Pro  
 405 410 415  
 Cys Ser Lys Leu Asn Thr Ala Tyr Tyr Gly Thr Ser Trp Arg Thr Pro  
 420 425 430  
 Thr Lys Asn Glu Leu Glu Lys Leu Val Arg Cys Thr Asp Arg Val Tyr  
 435 440 445  
 Asn Gly Gly Met Trp Phe Met Asn Asn Arg Leu Gly Leu Phe Leu Lys  
 450 455 460  
 Ala Ala Gly Met Arg Pro Glu Thr Gly Pro Gly Leu Glu Gly Thr Gly  
 465 470 475 480  
 Ser Gly Thr Ser Gly Val Tyr Leu Thr Ser Thr Leu Gly Asn Arg Lys  
 485 490 495  
 Asn Thr Cys Tyr Ala Leu Asp Phe Gly Thr Thr Tyr Ile Val Val Thr  
 500 505 510  
 Asp Thr Gly Ala Trp Asn Ala Leu Gln Ile Asn Gly Tyr Ser Val Arg  
 515 520 525  
 Cys Val Lys Gly Thr Lys Gln  
 530 535

<210> 6787  
 <211> 474  
 <212> PRT  
 <213> B.fragilis

<400> 6787  
 Pro Cys Ile Asn Asn His Thr Ser Tyr Asn Tyr Tyr Lys Phe Arg Ile  
 1 5 10 15  
 Lys Met Asn Arg Glu Asn Lys Pro Leu Phe Leu Tyr Thr Phe Ile Thr  
 20 25 30  
 Val Phe Gly Gly Leu Ile Val Gly Leu Asn Met Ala Gly Ile Ser Gly  
 35 40 45  
 Ala Val Pro Phe Leu Gln Glu Gln Phe Met Leu Asp Asp Met Ala Leu  
 50 55 60  
 Gly Leu Val Val Ser Ile Leu Thr Val Gly Cys Leu Cys Gly Ala Leu  
 65 70 75 80  
 Leu Gly Gly Phe Ser Asp Arg Tyr Gly Arg Gln Lys Val Met Phe  
 85 90 95  
 Ser Ser Ala Val Phe Phe Ile Val Ser Ser Leu Gly Cys Ala Leu Ser  
 100 105 110  
 Gly Asn Leu Val Ser Leu Leu Val Phe Arg Leu Ile Cys Gly Leu Gly  
 115 120 125  
 Ile Gly Val Ile Ser Ala Val Ala Pro Ile Tyr Ile Ser Glu Ile Ser  
 130 135 140  
 Pro Ala Arg Leu Arg Gly Thr Leu Val Ser Tyr Asn Gln Leu Ala Ile  
 145 150 155 160  
 Val Ile Gly Ile Leu Ile Ala Tyr Ile Val Asp Tyr Ile Leu Leu Asp  
 165 170 175  
 Tyr Glu Arg Asn Trp Arg Leu Met Leu Gly Phe Pro Phe Phe Ser  
 180 185 190  
 Val Ala Tyr Leu Leu Leu Leu Gly Ile Leu Pro Glu Ser Pro Arg Trp  
 195 200 205  
 Leu Ser Ala Arg Gly Lys Ala Gly Arg Ala Arg Gln Val Ala Ser Lys  
 210 215 220  
 Leu Asn Leu Glu Ala Gly Glu Met Thr Val Ser Asp Thr Asn Thr Gln  
 225 230 235 240

Glu Gly Arg Asp Arg Ile Lys Val Thr Glu Leu Phe Lys Gly Asn Leu  
                  245                 250                 255  
 Ala Lys Val Val Phe Ile Gly Ser Ile Leu Ala Ala Leu Gln Gln Ile  
                  260                 265                 270  
 Thr Gly Ile Asn Val Ile Ile Asn Tyr Ala Pro Ser Ile Phe Glu Met  
                  275                 280                 285  
 Thr Gly Val Ala Gly Asp Ile Ala Leu Val Gln Ser Ile Leu Val Gly  
                  290                 295                 300  
 Val Val Asn Leu Leu Phe Thr Leu Ile Ala Val Trp Leu Val Asp Lys  
                  305                 310                 315                 320  
 Val Gly Arg Lys Ile Leu Leu Cys Gly Ser Leu Gly Met Gly Ile  
                  325                 330                 335  
 Ser Leu Leu Tyr Leu Val Tyr Thr Phe Val Val Pro Ala Ala Asn Gly  
                  340                 345                 350  
 Ile Gly Ala Leu Ile Ala Val Leu Cys Tyr Ile Gly Phe Phe Ala Ala  
                  355                 360                 365  
 Ser Leu Ala Pro Leu Met Trp Val Val Thr Ser Glu Ile Tyr Pro Ser  
                  370                 375                 380  
 Arg Ile Arg Gly Thr Ala Met Ser Leu Ser Thr Gly Ile Ser Trp Leu  
                  385                 390                 395                 400  
 Cys Thr Phe Leu Thr Val Gln Phe Phe Pro Trp Ile Leu Asn Asn Leu  
                  405                 410                 415  
 Gly Gly Ser Val Ala Phe Gly Ile Phe Ala Ile Phe Ser Ile Ala Ala  
                  420                 425                 430  
 Phe Ala Phe Ile Leu Phe Cys Val Pro Glu Thr Lys Gly Lys Ser Leu  
                  435                 440                 445  
 Glu Ala Ile Glu Lys Glu Leu Gly Val Asp Lys Glu Ala Glu Glu Asn  
                  450                 455                 460  
 Val Lys Glu Glu His Ala Phe Ser Lys Ile  
                  465                 470

&lt;210&gt; 6788

&lt;211&gt; 184

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6788

Gly Glu Cys Glu Arg Arg Thr Cys Phe Leu Glu Asn Ile Ile Asn Thr  
                  1                 5                 10                 15  
 Lys Leu Asp Ile Ser Met Lys Gln Ser Lys Arg Asn Val Trp Trp Ser  
                  20                 25                 30  
 Val Cys Ala Gly Leu Leu Phe Cys Ser Trp Gly Cys Ser Ser Arg Val  
                  35                 40                 45  
 Ser Asp Lys Pro Val Thr Leu Glu Thr Leu Leu Asp Glu Met Val Ser  
                  50                 55                 60  
 Val Glu Glu Gln Ala Leu Tyr Pro Val Pro Ser Tyr Thr Cys Arg Gln  
                  65                 70                 75                 80  
 Glu Ser Ser Tyr Asp Arg Ala Ser Val Ser Pro Asp Ser Ala Gly Trp  
                  85                 90                 95  
 Phe Ala Asn Ser Asp Gly Phe Gly Ile Lys Arg Val Asp Thr Val Ala  
                  100                105                110  
 Gly Arg Ile Glu Lys Val Met Phe Asp Glu Val Gly Pro Gly Ala Ile  
                  115                120                125  
 Thr Arg Ile Trp Ile Thr Thr Ile Asp Lys Arg Gly Thr Trp Arg Phe  
                  130                135                140  
 Tyr Phe Asp Gly Ser Asp Gln Pro Gly Trp Ile Ile Pro Ala His Asp  
                  145                150                155                160  
 Leu Leu Arg Ile Asn Val Pro Gly Leu Gly Lys Val Met Leu His Gly  
                  165                170                175

Thr His His Leu Tyr Ala Leu Trp  
180

<210> 6789

<211> 61

<212> PRT

<213> B.fragilis

<400> 6789

Cys	Asn	Lys	Asp	Lys	Thr	Leu	Phe	Ser	Ser	Val	Gln	Ile	Phe	Ile	His
1						5				10				15	
Tyr	Ser	Asn	Asn	Gln	Leu	Phe	Ile	Ser	Ser	Ser	Tyr	Ile	Gln	Cys	Thr
						20			25				30		
Glu	Pro	Lys	Gln	Cys	Phe	Lys	Lys	Gly	Thr	Ser	Phe	Glu	Thr	Gln	Glu
						35		40				45			
Ser	Phe	Tyr	Leu	Ser	Asn	Leu	His	Lys	Leu	Thr	Ala	Lys			
						50		55			60				

<210> 6790

<211> 503

<212> PRT

<213> B.fragilis

<400> 6790

Tyr	Met	Asn	Arg	Thr	Phe	Ile	Met	Arg	Glu	Cys	Leu	Gly	Lys	Ala	Leu
1						5			10				15		
Trp	Leu	Cys	Phe	Cys	Leu	Ser	Ile	Ala	Gly	Cys	Ala	Glu	Asp	Asp	Arg
						20			25			30			
Met	Thr	Pro	Leu	Ser	Ala	Asp	Ser	Gly	Asp	Thr	Ala	Asp	Glu	Leu	Ile
						35		40			45				
Pro	Ile	His	Ile	Ser	Leu	Thr	Gly	Asp	Asn	Asp	Tyr	His	Ser	Ser	Ser
						50		55			60				
Phe	Asn	Asn	Ala	Ser	Thr	Arg	Ser	His	Ser	Pro	Leu	Ile	Ala	Glu	Trp
						65		70			75			80	
Val	Gly	Val	Lys	Ala	Phe	Ser	Pro	Thr	Arg	Thr	Gly	Glu	Gln	Pro	Asp
						85		90			95				
Tyr	Asp	Gly	Pro	Arg	Ile	Ala	Ser	Met	Glu	Leu	Thr	Glu	Asp	Thr	Leu
						100		105			110				
Pro	Arg	Val	Ser	Thr	Arg	Ala	Thr	Val	Pro	Ala	Gly	Val	Tyr	Phe	Arg
						115		120			125				
Leu	Ile	Val	Phe	Arg	Lys	Ser	Gly	Asn	Asn	Tyr	Val	Phe	Gln	Ser	Val
						130		135			140				
Ala	Asp	Tyr	Ala	Ser	Asn	Gly	Thr	Gly	Thr	Pro	Val	Leu	Lys	Gln	Gly
						145		150			155			160	
Lys	Leu	Leu	Thr	Arg	Ser	Gly	Thr	Ile	Arg	Met	Val	Gly	Tyr	Ser	Phe
						165		170			175				
Asn	Thr	Ala	Thr	Ala	Ala	Asp	Leu	Gly	Thr	Met	Leu	Ser	Thr	Tyr	Ala
						180		185			190				
Tyr	Asn	Ser	Ser	Thr	Val	Ser	Ile	Pro	Asn	Met	Ser	Lys	Asp	Phe	Met
						195		200			205				
Thr	Phe	Asp	Ser	Gly	Asp	Ile	Thr	Asn	Val	Asn	Ser	Leu	Ser	His	Asn
						210		215			220				
Leu	Pro	Val	Ser	Phe	Asn	Gln	Lys	Leu	Cys	Lys	Leu	Thr	Ile	Thr	Ile
						225		230			235			240	
Ser	Pro	Thr	Gly	Phe	Pro	Ser	Asn	Thr	Ile	Thr	Asn	Cys	Thr	Gly	Val
						245		250			255				
Tyr	Val	Lys	Gln	Gly	Gly	Asn	Ser	Thr	Ser	Trp	Lys	Ile	Gly	Pro	Ser
						260		265			270				
Thr	Asn	Val	Val	Ala	Thr	Asn	Asn	Thr	Ala	Ala	Phe	Ser	Pro		

275	280	285
Ser Thr Ala Leu Ser Thr Thr	Ile Arg Met Val Pro	Phe Ala Gly Ala
290	295	300
Arg Thr Ile Thr Val His Phe Asn Thr	Leu Thr Val Gly Gly Arg Ile	
305	310	315
Val Asn Asn Asn Thr Glu Ile Thr Ser Thr	Gln Ser Val Gln Leu Lys	
320	325	330
Glu Gly Lys Ser Tyr Thr Leu Lys Ile Gln Phe Lys Lys	Gly Pro Gly	
335	340	345
Ile Asn Val Leu Glu Ser Asp Ile Asn Leu Thr Gly Asn	Gly Cys Thr	
355	360	365
Ala Gln Asp Lys Lys Asp Leu Ala Lys Leu Ile Trp Ala Asp Gly Asn		
370	375	380
Leu Lys Ser Thr Gly Asn Ser Asn Tyr Val Trp Thr Thr Ser Thr Asp		
385	390	395
Arg Gly Tyr Tyr Tyr Thr Trp Tyr Ser Thr Tyr Thr Gly Asn Thr Ser		
405	410	415
Gln Asn Asn Thr Asp Pro Cys Ser Lys Leu Asn Val Ser Thr Tyr Gly		
420	425	430
Thr Gly Trp Arg Thr Pro Ser Arg Asn Glu Leu Thr Lys Leu Ser Arg		
435	440	445
Cys Thr Asn Lys Ala Lys Val Asn Asn Gly Met Trp Phe Met Asn Ser		
450	455	460
Ser Lys Gly Leu Phe Leu Pro Leu Ala Gly His Thr Pro Ser Ala Ser		
465	470	475
Gly Ala Asn Thr Gly Gly Asn Ala Ile Met Asn Gly Asn Arg His Gly		
485	490	495
Asn Tyr Trp Cys Thr Lys Glu		
500		

&lt;210&gt; 6791

&lt;211&gt; 70

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6791

Pro Pro Leu Phe Ile Leu Phe Ser Phe Leu Pro Arg Ile Val Arg Ile			
1	5	10	15
Phe Phe Pro Asn Thr Met His Ile Gly Ile Val Leu Phe Thr Lys Pro			
20	25	30	
Met Pro Phe Ile Leu Tyr Ser Ala Val Val Leu Ile Tyr Ile Ser Asn			
35	40	45	
Tyr Ile Ser Leu Phe Tyr Arg Leu Tyr Leu Asn Ser Leu Ala Pro Thr			
50	55	60	
Pro Leu Ile Asn Ser Gly			
65	70		

&lt;210&gt; 6792

&lt;211&gt; 109

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6792

Leu Phe Pro Ser Phe Asn Cys Thr Leu Trp Val Asp Val Ile Ser Val			
1	5	10	15
Leu Leu Phe Thr Ile Arg Pro Pro Thr Val Ser Val Leu Lys Cys Thr			
20	25	30	
Val Ile Val Leu Ala Pro Ala Asn Gly Thr Met Arg Met Val Val Leu			
35	40	45	

Arg Ala Val Leu Gly Leu Asn Ala Ala Val Leu Phe Val Leu Val Ala  
 50 55 60  
 Thr Thr Leu Val Glu Gly Pro Ile Phe His Asp Val Glu Phe Pro Pro  
 65 70 75 80  
 Cys Phe Thr Tyr Thr Pro Val Gln Leu Val Ile Val Leu Leu Gly Asn  
 85 90 95  
 Pro Val Gly Leu Met Val Ile Val Ser Leu His Asn Phe  
 100 105

&lt;210&gt; 6793

&lt;211&gt; 205

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6793

Ile Lys Glu Thr Met Leu Leu Pro Trp Leu Asn Glu Glu Leu Ile Glu  
 1 5 10 15  
 Ala Gly Cys Asp Glu Ala Gly Arg Gly Cys Leu Ala Gly Ala Val Tyr  
 20 25 30  
 Ala Ala Ala Val Ile Leu Pro Lys Asp Phe Glu Asn Glu Leu Leu Asn  
 35 40 45  
 Asp Ser Lys Gln Leu Ser Glu Lys Gln Arg Tyr Ala Leu Arg Glu Val  
 50 55 60  
 Ile Glu Arg Asp Ala Val Ala Trp Ala Ile Gly Ile Val Ser Pro Glu  
 65 70 75 80  
 Glu Ile Asp Lys Ile Asn Ile Leu Asn Ala Ser Phe Leu Ala Met His  
 85 90 95  
 Arg Ala Val Asp Arg Leu Lys Thr Arg Pro Gln His Leu Leu Ile Asp  
 100 105 110  
 Gly Asn Arg Phe Lys Lys Tyr Pro Asp Ile Pro His Thr Thr Val Ile  
 115 120 125  
 Lys Gly Asp Gly Lys Tyr Leu Ser Ile Ala Ala Ala Ser Ile Leu Ala  
 130 135 140  
 Lys Thr Tyr Arg Asp Asp Tyr Met Asn Arg Leu His Gln Glu Phe Pro  
 145 150 155 160  
 Cys Tyr Asp Trp Glu His Asn Lys Gly Tyr Pro Thr Lys Lys His Arg  
 165 170 175  
 Ala Ala Ile Ala Gly His Gly Thr Thr Pro Tyr His Arg Met Thr Phe  
 180 185 190  
 Asn Leu Leu Gly Asp Gly Gln Leu Glu Leu Phe Ser Lys  
 195 200 205

&lt;210&gt; 6794

&lt;211&gt; 311

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6794

Asn Ile Met Ser Lys Lys Ala Leu Leu Met Ile Leu Asp Gly Trp Gly  
 1 5 10 15  
 Leu Gly Asp His Gly Lys Asp Asp Val Ile Phe Asn Thr Ala Thr Pro  
 20 25 30  
 Tyr Trp Asp Tyr Leu Met Glu Thr Tyr Pro His Ser Gln Leu Gln Ala  
 35 40 45  
 Ser Gly Glu Asn Val Gly Leu Pro Asp Gly Gln Met Gly Asn Ser Glu  
 50 55 60  
 Val Gly His Leu Asn Ile Gly Ala Gly Arg Val Val Tyr Gln Asp Leu  
 65 70 75 80  
 Val Lys Ile Asn Leu Ser Cys Arg Asp Asn Ser Ile Leu Lys Asn Pro

85	90	95
Glu Ile Val Ser Ala Phe Ser Tyr Ala Lys Glu Asn Gly Lys Asn Val		
100	105	110
His Phe Met Gly Leu Thr Ser Asp Gly Gly Val His Ser Ser Leu Asp		
115	120	125
His Leu Phe Lys Leu Cys Asp Ile Ala Lys Glu Tyr Asn Ile Glu Asn		
130	135	140
Thr Phe Val His Cys Phe Met Asp Gly Arg Asp Thr Asp Pro Lys Ser		
145	150	155
Gly Lys Gly Phe Ile Glu Gln Leu Glu Ala His Cys Ala Lys Ser Ala		
165	170	175
Gly Lys Val Ala Ser Ile Ile Gly Arg Tyr Tyr Ala Met Asp Arg Asp		
180	185	190
Lys Arg Trp Glu Arg Val Lys Glu Ala Tyr Asp Leu Leu Val Asn Gly		
195	200	205
Ile Gly Lys Lys Ala Thr Asp Met Val Gln Ala Met Gln Glu Ser Tyr		
210	215	220
Asp Glu Gly Val Thr Asp Gln Phe Ile Lys Pro Ile Val Asn Ala Gly		
225	230	235
Val Asp Gly Thr Ile Lys Glu Gly Asp Val Val Ile Phe Phe Asn Tyr		
245	250	255
Arg Asn Asp Arg Ala Lys Glu Leu Thr Val Val Leu Thr Asn Lys Ile		
260	265	270
Cys Leu Glu Pro Ala Cys Pro Gln Tyr Arg Gly Leu Gln Tyr Tyr Cys		
275	280	285
Phe Asp Ser Gly Pro Glu Leu Trp Phe Lys Gly Trp Ala Tyr Phe Gly		
290	295	300
Ser Ile Met Glu Asn Val Gly		
305	310	

&lt;210&gt; 6795

&lt;211&gt; 315

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6795

Gln Thr Lys Gly Gly Asn Lys Met Arg Thr Tyr Leu Tyr Cys Glu Ala		
1	5	10
Gly Phe Val Glu Lys Ala Gln Trp Leu His Asn Ser Trp Val Asn Val		
20	25	30
Val Cys Pro Asp Ser Ser Asp Phe Lys Phe Leu Thr Glu Thr Leu Lys		
35	40	45
Val Pro Glu Ser Phe Leu Asn Asp Ile Ala Asp Thr Asp Glu Arg Pro		
50	55	60
Arg Thr Glu Thr Glu Gly Asn Trp Leu Leu Thr Ile Leu Arg Ile Pro		
65	70	75
Val Gln Asn Ala Gln Ser Ser Ile Pro Tyr Thr Thr Val Pro Ile Gly		
85	90	95
Ile Ile Thr Asn Asn Glu Ile Ile Val Ser Val Cys Tyr His Gln Thr		
100	105	110
Asp Met Ile Pro Asp Phe Ile Glu His Thr Arg Arg Lys Gly Ile Glu		
115	120	125
Val Arg Asn Lys Leu Asp Leu Ile Phe Arg Leu Ile Tyr Ser Ser Ala		
130	135	140
Val Trp Phe Leu Lys Tyr Leu Lys Gln Ile Asn Ile Asp Ile Thr Ala		
145	150	155
Ala Glu Lys Glu Leu Glu Arg Ser Ile Arg Asn Glu Asp Leu Leu Arg		
165	170	175
Leu Met Lys Leu Gln Lys Thr Leu Val Tyr Phe Asn Thr Ser Ile Arg		

180	185	190
Gly Asn Glu Val Met Ile Gly Lys Leu Lys Thr Ile Phe Gln Asp Thr		
195	200	205
Asp Tyr Leu Asp Glu Glu Leu Val Glu Asp Val Ile Ile Glu Leu Lys		
210	215	220
Gln Ala Phe Asn Thr Val Asn Ile Tyr Ser Asp Ile Leu Thr Gly Thr		
225	230	235
Met Asp Ala Phe Ala Ser Ile Ile Ser Asn Asn Val Asn Ala Ile Met		
245	250	255
Lys Arg Met Thr Ser Leu Ser Ile Thr Leu Met Ile Pro Thr Leu Ile		
260	265	270
Ala Ser Phe Tyr Gly Met Asn Val Asp Ile His Leu Glu Glu Met Pro		
275	280	285
His Ala Phe Leu Leu Ile Ile Leu Val Ser Val Phe Leu Ser Ala Leu		
290	295	300
Ser Phe Val Ile Phe Arg Lys Ile Lys Trp Phe		
305	310	315

&lt;210&gt; 6796

&lt;211&gt; 62

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6796

Leu Arg Leu Gly Arg Arg Tyr Leu Ala Phe Leu Asn Gly Lys Lys Lys		
1	5	10
Gln Leu Leu Phe Phe Val Ala Asn His Gly Glu Ile Val Arg Thr Arg		
20	25	30
Asn Met Leu Phe Phe Asn Val Gly Gly Val Leu Lys Phe Ala Leu		
35	40	45
Cys Gly Ile Thr Lys Tyr Ala Gly Leu Leu Phe Val Phe Arg		
50	55	60

&lt;210&gt; 6797

&lt;211&gt; 192

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6797

Pro Glu Lys Thr Glu Ala Pro Ala Arg Ala Asn Pro Phe Phe Gly Trp		
1	5	10
His Pro Glu His Ser Phe Ser Pro Ile Thr Thr Thr Asp Phe Ala Lys		
20	25	30
Ala Ala Arg Val Glu Leu Glu His Arg Gly Asp Gly Ala Thr Gly Trp		
35	40	45
Ser Met Gly Trp Lys Leu Asn Gln Trp Ala Arg Leu Gln Asp Gly Asn		
50	55	60
His Ala Tyr Lys Leu Phe Gly Asn Leu Leu Lys Asn Gly Thr Leu Asp		
65	70	75
Asn Leu Trp Asp Thr His Pro Pro Phe Gln Ile Asp Gly Asn Phe Gly		
85	90	95
Gly Thr Ala Gly Ile Thr Glu Met Leu Leu Gln Ser His Met Gly Phe		
100	105	110
Ile Gln Leu Leu Pro Ala Leu Pro Asp Ala Trp Lys Asp Gly Ser Ile		
115	120	125
Ser Gly Ile Cys Ala Lys Gly Asn Phe Glu Val Asp Leu Ser Trp Lys		
130	135	140
Asn Gly Gln Leu Ala Glu Ala Thr Ile Phe Ser Lys Ala Gly Glu Pro		
145	150	155
		160

Cys Thr Val Arg Tyr Gly Asp Lys Thr Leu Ser Phe Lys Thr Ser Lys  
           165                     170                     175  
 Gly Lys Val Tyr Lys Leu Ala Leu Asp Ala Asp Arg Leu Val Ile Lys  
           180                     185                     190

<210> 6798

<211> 89

<212> PRT

<213> B.fragilis

<400> 6798

Arg Lys Arg Thr Asn Gln Lys Val Arg Ser Tyr Ile Lys Ala Asp Leu  
   1                  5                 10                 15  
 Ser Leu Phe Ser Lys Phe Arg Glu Asn Leu Ile Thr Phe Gly Gln Thr  
   20                25              30  
 Asn Leu Ile Asn Lys Ser Ala Trp Phe Arg Lys Glu Gln Glu Lys Asn  
   35                40              45  
 Asp Ile His Thr Val Thr Ser Asn Asn Tyr Ala Tyr Glu Val Glu Lys  
   50                55              60  
 Thr Asn Pro Leu Gln Thr Leu Phe Arg Lys Gln Asn Lys Ile Arg Asn  
   65                70              75              80  
 Pro Lys Thr Asn Tyr Gln Ile Asn Val  
                   85

<210> 6799

<211> 62

<212> PRT

<213> B.fragilis

<400> 6799

Pro Phe Ala Asn Arg Glu Arg Leu Ile Phe Leu Pro Pro Ser Ser Glu  
   1                  5                 10                 15  
 Ala Ala Arg Phe Ile His Tyr Leu Leu Leu Phe Asn Lys Ile Val Val  
   20                25              30  
 Gln Arg Ala Val Ile Lys Lys Ile Ile Ile Asn Ser Cys Ile Leu  
   35                40              45  
 Leu Lys Val Ile Ala Ser Leu Pro Arg Asp Ile Val Ile Leu  
   50                55              60

<210> 6800

<211> 95

<212> PRT

<213> B.fragilis

<400> 6800

Phe Tyr Gln Ile Lys Ile Ser Pro Glu Glu Lys Tyr Phe Phe Arg Gly  
   1                  5                 10                 15  
 Tyr Phe Cys Phe Ile Thr Gln Ser Ser Leu His Pro Glu Lys Tyr Ile  
   20                25              30  
 His His Thr Glu Ile Ser Lys Pro Asn Val Thr Ala Ile Arg Ile Leu  
   35                40              45  
 Leu Leu Thr Phe Tyr Tyr Leu Tyr Cys Lys Ile Gln Lys Val Ser Tyr  
   50                55              60  
 Leu Thr Phe Trp Tyr Phe Ser Thr Pro Thr Phe Leu Asn Ile Asn Thr  
   65                70              75              80  
 Ile Lys Gln Asn Arg Ile Glu Asn Arg Asn Glu Lys Thr Lys Pro  
                   85                90              95

<210> 6801

<211> 387  
<212> PRT  
<213> B.fragilis

<400> 6801

Asp	His	Thr	Ser	Arg	Ser	Leu	Glu	Lys	Ser	Leu	Leu	Tyr	Asp	Phe	Thr
1							5			10					15
Asn	Ser	Gln	Lys	Thr	Val	Tyr	Met	Lys	Ile	Gly	Ile	Leu	Thr	Phe	His
							20			25					30
Asp	Ala	His	Asn	Tyr	Gly	Ala	Met	Leu	Gln	Cys	Tyr	Ala	Leu	Gln	Gln
							35			40					45
Phe	Leu	Phe	Lys	Lys	Gly	Tyr	Asn	Val	Glu	Val	Ile	Asp	Tyr	Arg	Pro
							50			55					60
Ala	Phe	Tyr	Gln	Lys	Gln	Tyr	His	Arg	His	Ser	Leu	Cys	Pro	Trp	Ile
							65			70					80
Gly	Lys	Asn	Pro	Val	Arg	Thr	Met	Lys	Ser	Ile	Tyr	Tyr	Asn	Tyr	Tyr
							85			90					95
Leu	Phe	Asn	Lys	Arg	Cys	Ala	Ala	Phe	Ser	Asp	Phe	His	Asn	Arg	His
							100			105					110
Leu	Tyr	Met	Ser	Ile	Pro	Ala	Thr	Arg	Thr	Asn	Ile	Pro	Gln	Ser	Tyr
							115			120					125
Asp	Ala	Tyr	Ile	Val	Gly	Ser	Asp	Gln	Ile	Trp	Asn	Pro	Gln	Leu	Thr
							130			135					140
Asn	Gly	Phe	His	Asp	Val	Tyr	Phe	Cys	Asp	Phe	Cys	Phe	Pro	Lys	Gly
							145			150					160
Lys	Ser	Arg	Phe	Ile	Ala	Tyr	Ala	Pro	Ser	Met	Glu	Ile	Ser	Arg	Leu
							165			170					175
Ser	Thr	Gln	Glu	Ala	Glu	Tyr	Leu	Thr	Arg	Val	Leu	Asn	Cys	Phe	Asp
							180			185					190
Ala	Leu	Ser	Val	Arg	Glu	Ser	Ser	Leu	Ile	Pro	Ile	Leu	Gln	Pro	Leu
							195			200					205
Val	Ser	Gln	Pro	Ile	Gln	Gln	Val	Leu	Asp	Pro	Thr	Leu	Leu	Leu	Asp
							210			215					220
Ala	Thr	Ala	Trp	Asn	Pro	Leu	Ile	Gly	Lys	Cys	Pro	Glu	Asn	Arg	Pro
							225			230					240
Tyr	Val	Val	Leu	Tyr	Gln	Val	Arg	Glu	Asn	Pro	Ala	Val	Arg	Met	Lys
							245			250					255
Ala	Phe	Glu	Ile	Ala	Gln	Ser	Ile	Gly	Gly	Ile	Val	Val	Glu	Leu	Thr
							260			265					270
Ala	Arg	Ile	Asp	Cys	His	Tyr	Ser	Thr	Lys	Tyr	Gln	Thr	Ala	Ser	Pro
							275			280					285
Ala	Asp	Phe	Val	Thr	Tyr	Ile	Arg	Tyr	Ala	Thr	Tyr	Val	Val	Thr	Thr
							290			295					300
Ser	Phe	His	Gly	Thr	Ala	Phe	Ser	Leu	Ile	Phe	Asn	Arg	Pro	Phe	Tyr
							305			310					320
Thr	Phe	Ser	Leu	Gly	Asp	Asn	Phe	Asp	Ser	Arg	Ser	Ala	Ser	Leu	Leu
							325			330					335
Glu	Ser	Val	Asn	Leu	Thr	Glu	Arg	Leu	Val	Cys	Pro	Asp	Glu	Gln	Phe
							340			345					350
Glu	Ile	Ser	Leu	Ile	Asp	Phe	Lys	Gln	Ala	Asn	Lys	Arg	Leu	Lys	His
							355			360					365
Leu	Arg	Lys	Gln	Ser	Cys	Asp	Phe	Leu	Arg	Gln	Ser	Leu	His	Glu	Arg
							370			375					380
Gln	Glu	Gln													

&lt;211&gt; 387

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;213&gt; B.fragilis

&lt;400&gt; 6802

Ile	Tyr	Leu	Phe	Pro	Val	Tyr	His	Ser	Tyr	Arg	Met	Lys	Arg	Cys	Leu
1		5					10					15			
Leu	Tyr	Ile	Leu	Cys	Cys	Phe	Gly	Val	Val	Gln	Leu	Ser	Ala	Gln	Pro
		20				25					30				
Ala	Asp	Asn	Ile	Arg	Asn	Ser	Phe	Val	Lys	Ala	Glu	Thr	Phe	Tyr	Lys
	35			40					45						
Ser	Gly	Asp	Ile	Asp	Glu	Ala	Cys	Arg	Ile	Leu	Glu	Glu	Asn	Leu	Ser
	50				55				60						
Ser	Phe	Gln	Gly	Thr	Met	His	Thr	Glu	Ala	Cys	Arg	Leu	Ala	Ala	Leu
	65				70			75				80			
Cys	Cys	Leu	Ala	Leu	Asp	Arg	Phe	Pro	Glu	Ala	Glu	Lys	Tyr	Val	Ser
		85				90			95						
Leu	Leu	Leu	Lys	Asp	Glu	Pro	Tyr	Tyr	Ile	Ser	Leu	Gln	Asp	Pro	
		100				105			110						
Glu	Arg	Phe	Ala	Asp	Met	Val	Arg	Lys	His	Arg	Glu	Thr	Lys	Val	Thr
	115				120				125						
Leu	Val	Thr	Ala	Ser	Gln	Gln	Val	Glu	Thr	Pro	Glu	Glu	Ala	Pro	Val
	130				135				140						
Pro	Val	Thr	Leu	Ile	Thr	Glu	Glu	Met	Ile	Arg	Ala	Ile	His	Ala	Arg
	145				150				155				160		
Cys	Leu	Arg	Asp	Val	Leu	Ile	Ala	Tyr	Val	Pro	Gly	Ile	Ser	Gly	Leu
		165				170				175					
Ser	Ser	Asn	Glu	Glu	Met	Asn	Leu	Ala	Met	Arg	Gly	Val	Tyr	Ser	Pro
		180				185				190					
Glu	Gln	Glu	Asn	Ile	Leu	Ile	Met	Gln	Asp	Gly	Gln	Arg	Leu	Asn	Ser
		195				200				205					
Tyr	Ile	Thr	Asn	Ala	Val	Ser	Pro	Asp	Tyr	Gly	Ile	Ser	Leu	Ala	Lys
	210				215				220						
Val	Lys	Gln	Ile	Glu	Val	Leu	Arg	Gly	Pro	Ala	Ser	Ser	Leu	Tyr	Gly
	225				230				235				240		
Ser	Val	Ala	Leu	Thr	Ala	Val	Ile	Asn	Ile	Val	Thr	Lys	Asp	Gly	Val
		245				250				255					
Asp	Val	Arg	Asn	Gly	Ser	Ile	Ser	Val	Ser	Ala	Gly	Asn	Arg	Gly	Gln
		260				265				270					
Leu	Ala	Ala	Asp	Leu	Leu	Leu	Gly	Lys	His	Asp	Met	Asn	Met	Asp	Phe
		275				280				285					
Met	Ala	Trp	Phe	Ser	Leu	Tyr	Arg	Ala	Thr	Gly	Glu	Ser	Val	Phe	Val
	290				295				300						
Pro	Ala	Glu	Lys	Gln	Tyr	Ala	Leu	Tyr	Pro	Arg	Asp	Gly	Phe	Ile	Arg
	305				310				315				320		
Leu	Asp	Asn	Tyr	Ser	Gly	Phe	Pro	Ala	Met	Asp	Gly	Gly	Ile	Lys	Leu
		325				330				335					
Gln	Arg	Gly	Asn	Leu	Leu	Phe	Ser	Phe	Ser	Met	Asn	Tyr	Ala	Lys	Lys
		340				345				350					
Arg	Gln	Pro	Tyr	Ser	Met	Trp	Leu	Phe	Ser	Ser	Pro	Tyr	Ser	Tyr	Glu
	355					360				365					
Arg	Phe	Arg	Thr	Phe	Asp	Gly	Ser	Gly	Pro	Gly	Tyr	Ser	Arg	Trp	Ser
	370				375				380						
Ala	Arg	Glu	Gln	Ala	Val	Tyr	Ser	Arg	Thr	Trp	Gln	Arg	Ile	Thr	Phe
	385				390				395				400		
Ser	Thr	Ala	Phe	Tyr	Thr	Asp	Trp	Asn	Lys	Asn	Val	His	Tyr	Glu	Thr
		405				410				415					
Ser	Gly	Asp	Thr	Leu	Gln	Asp	Tyr	Pro	Ile	Phe	Pro	Asn	Tyr	Asp	Tyr
		420				425				430					
Gln	Pro	Ile	Ile	Tyr	Pro	Thr	Arg	Gly	Ala	Phe	Gln	Tyr	Ile	Arg	Trp
	435					440				445					

Met Asp Phe Asn Val Gly Phe Asn Gly Arg Val Asn Tyr Ala Tyr Asp  
 450 455 460  
 Trp Gly Lys Leu Gly Lys Gly Asn Met Leu Gly Gly Val Glu Trp Asn  
 465 470 475 480  
 Arg Tyr Thr Leu Tyr Asp Ser Glu Tyr Leu Glu Gly Met Asn Phe Lys  
 485 490 495  
 Glu Ile Val Arg Thr Trp Ile Glu Lys Arg Leu Tyr Thr Gly His Glu  
 500 505 510  
 Met Asn Thr Asp Ala Phe Leu Gln Ile Lys His Asn Leu His Lys Asn  
 515 520 525  
 Trp Ile Val Asn Ala Gly Ile Arg Tyr Asp Tyr Lys Arg Arg Ser Asn  
 530 535 540  
 Lys Arg Thr Leu Gln Ala Phe Ser Pro Arg Leu Ser Leu Ile Tyr Leu  
 545 550 555 560  
 Arg Asn Gly Leu Asn Ile Lys Ala Ser Tyr Ser Arg Ala Phe Val Asp  
 565 570 575  
 Ala Pro Tyr Tyr Arg Asn Asn Glu Met Asp Thr Tyr Ser Gly Gly  
 580 585 590  
 Glu Asn Leu Gln Ala Glu Tyr Leu Ser Ser Tyr Gln Val Thr Cys Ala  
 595 600 605  
 Tyr His His Ser Pro Ser His Ile Asp Val Glu Cys Asn Leu Phe Tyr  
 610 615 620  
 Asn Arg Ala Ser His Phe Leu Phe Thr Gln Pro Glu Thr Arg Val Tyr  
 625 630 635 640  
 Glu Asn Ala Gly Ser Leu Asp Met Gly Gly Val Glu Val Val Ala Arg  
 645 650 655  
 Tyr Lys Ala Asp Arg Leu Ser Leu Asp Gly Asn Leu Cys Phe Gln Lys  
 660 665 670  
 Val Leu Asn Tyr Thr Asn Phe Phe Val Thr Asp Gly Ser Val Asn Asn  
 675 680 685  
 Val Pro Gly Phe Ser Met Asn Leu Val Ala Asn Tyr Phe Leu Leu Lys  
 690 695 700  
 Lys Lys Val Gln Ser Trp Ser Ala His Leu Lys Leu Asn Cys Ser Ser  
 705 710 715 720  
 His Cys Tyr Thr Gln Ile Ser Val Leu Glu Asp Gly Leu Asn Gly Asp  
 725 730 735  
 Ala Thr Asn Tyr Thr Val Arg Leu Pro Gly Tyr Ala Val Phe Ser Phe  
 740 745 750  
 Thr Thr Arg Tyr Lys Tyr Lys Arg Ile Glu Gly Ser Leu Gly Ile Glu  
 755 760 765  
 Asn Leu Phe Asn Asn Arg Tyr Glu Cys Gly Gly Ala Thr Val Pro Ile  
 770 775 780  
 Arg Gln Lys Gly Arg Trp Ile Ser Ala Ser Ile Leu Tyr Asn Phe  
 785 790 795

<210> 6803  
 <211> 67  
 <212> PRT  
 <213> B.fragilis

<400> 6803  
 Leu Gln Phe Pro Ser Pro Glu Gly Lys Glu Asp Ser Val Pro Leu Pro  
 1 5 10 15  
 Ile Pro Gly Tyr Ala Phe Asn Thr Met Ala His Asn Tyr Pro Gly Leu  
 20 25 30  
 Ala Asp Ile Leu Lys Arg Leu Gly Ile Asn Glu Val Asn Glu Val Asn  
 35 40 45  
 Ala Ile Leu Arg Leu Pro Asp Tyr Glu Arg Lys Gly Thr Val Gln Pro  
 50 55 60

Leu Phe Ser  
65

<210> 6804

<211> 954

<212> PRT

<213> B.fragilis

<400> 6804

Ile	Leu	Leu	Pro	Lys	Asn	Val	Ser	Ala	Met	Lys	Lys	Ile	Val	Phe	Leu
1									5		10				15
Ile	Met	Cys	Leu	Cys	Ser	Val	Tyr	Ala	Asn	Ser	Gln	Glu	Gly	Ile	Pro
	20						25							30	
Phe	Phe	Val	Asn	Tyr	Pro	Ala	Ser	Val	Tyr	Gln	Ala	His	Asn	Arg	Asn
	35						40						45		
Phe	Asp	Val	Val	Cys	Asp	Ser	Cys	Gly	Asn	Val	Tyr	Phe	Ala	Asn	Phe
	50						55					60			
Glu	Gly	Ile	Leu	His	Tyr	Asp	Tyr	Asn	Arg	Trp	Glu	Thr	Ile	Tyr	Thr
65						70				75			80		
Pro	Gly	Phe	Ser	Arg	Val	Thr	Arg	Leu	Phe	Arg	Asp	Ser	Glu	Gly	Arg
	85						90						95		
Ile	Trp	Val	Gly	Gly	Tyr	Asn	Val	Phe	Gly	Arg	Ile	Glu	Arg	Asp	Gly
	100						105					110			
Arg	Gly	Cys	Ile	Thr	Leu	Arg	Thr	Leu	Leu	Ser	Asp	Leu	Asp	Thr	Asp
	115						120					125			
Ser	Leu	Gly	Glu	Leu	Glu	Asp	Met	Ala	Glu	Ile	Asp	Lys	Arg	Ile	Tyr
	130						135					140			
Leu	Lys	Ala	Thr	Ser	Gly	Arg	Tyr	Tyr	Thr	Val	Gln	Ser	Asp	Ser	Ile
145							150				155			160	
Leu	Thr	Pro	Val	Gln	Val	Leu	Pro	Ala	Gln	Leu	Gln	Glu	Lys	Trp	Arg
	165							170					175		
Asn	Gln	Ser	Ser	Val	Ser	Met	Asn	Arg	Ala	Phe	Ser	Leu	Pro	Gly	Gly
	180							185					190		
Glu	Thr	Ile	Ser	Ile	Asn	Ser	Ala	His	Gly	Leu	Ile	Met	Asp	Asp	Ser
	195							200					205		
Gly	Lys	Lys	Glu	Arg	Phe	Ser	Val	Thr	Glu	Arg	Asn	Gly	Leu	Cys	Ser
	210						215					220			
Asn	Ala	Val	Ser	Gly	Ile	Ala	Ala	Asp	Gly	Arg	Gly	Asn	Leu	Trp	Gly
225							230				235			240	
Ala	Thr	Asp	Asn	Gly	Val	Phe	His	Val	Phe	Ile	Pro	Ser	Leu	Phe	Ser
	245							250					255		
Arg	Tyr	Thr	Ser	Gly	Glu	Gly	Leu	Lys	Gly	Glu	Val	Ile	Ser	Ala	Val
	260							265					270		
Ser	Tyr	Lys	Gly	Met	Ile	Tyr	Thr	Gly	Thr	Leu	Gln	Gly	Leu	Tyr	Val
	275						280					285			
Leu	Lys	Gln	Asn	Thr	Phe	Val	Pro	Val	Gln	Gly	Ile	Ser	Gln	Ala	Cys
	290							295					300		
Trp	Arg	Leu	Cys	Leu	Ser	Pro	Gln	Gly	Glu	Leu	Tyr	Ala	Ala	Ser	Gly
305							310				315			320	
Asp	Gly	Val	Tyr	Val	Ile	Arg	Asp	Tyr	Asn	His	Ser	Glu	Lys	Leu	Thr
	325							330					335		
Asp	Met	Ala	Ala	Tyr	Ser	Leu	Ala	Phe	Ile	Gly	His	Thr	Asn	Leu	Leu
	340							345					350		
Met	Gly	Thr	Met	Asp	Gly	Ile	Tyr	Gln	Tyr	Ser	Ala	Asp	Glu	Glu	Arg
	355							360					365		
Ile	Lys	Lys	Ile	Ser	Asp	Val	Glu	Lys	Val	Val	Arg	Leu	Glu	Val	Lys
	370							375					380		
Lys	Asp	Arg	Ser	Val	Trp	Ala	Lys	Thr	Leu	Tyr	Gly	Glu	Ile	Tyr	Leu
	385							390					395		400

Arg Glu Glu Gly Glu Ser Ser Phe Val Leu Gln Asp Arg Glu Ser Glu  
           405                  410                  415  
 Glu Val Met Thr Glu Tyr Thr Asp Asn Asp Gly Cys His Trp Gln Thr  
           420                  425                  430  
 Asn Leu Lys Gly Lys Glu Val Gln Val His His Ser Gln Ile Asp Thr  
           435                  440                  445  
 Glu Lys Phe Asn Gln Cys Leu Tyr Ala Ile Arg Asn Tyr Val Val Arg  
           450                  455                  460  
 Val Ile Tyr Ile Glu Glu Asp Arg Ala Ala Trp Phe Gly Gly Asp Phe  
           465                  470                  475                  480  
 Gly Leu Ile Arg Met Asp Leu Glu Lys Ala Arg Thr Phe Thr Pro Val  
           485                  490                  495  
 Ala Pro Arg Ile Tyr Leu Arg Glu Ile Cys Leu Asn Arg Asp Ser Val  
           500                  505                  510  
 Tyr Trp Gly Gly Asp Leu Pro Glu Glu Ser Gly Gly Ala Asp Trp Gln  
           515                  520                  525  
 Ile Asn Ser Thr Ala Pro Arg Leu Gly Asn Asp Val Arg Ser Ile Arg  
           530                  535                  540  
 Phe Ser Phe Ala Thr Asp Ala Pro Cys Phe Thr Gly Ser Asn Glu Tyr  
           545                  550                  555                  560  
 Arg Tyr Arg Leu Val Gly Tyr Asp Pro Glu Trp Ser Ser Trp Asp Pro  
           565                  570                  575  
 Gly Thr Val Lys Glu Tyr Ala Asn Leu Ser Ser Gly Thr Tyr Thr Phe  
           580                  585                  590  
 Cys Val Arg Ala Arg Asp Ile Tyr Gly Thr Glu Ser Glu Met Asn Gln  
           595                  600                  605  
 Phe Arg Phe Ser Leu Leu Pro Pro Phe Tyr Leu Gln Trp Tyr Cys Leu  
           610                  615                  620  
 Ile Leu Tyr Ala Val Ala Phe Gly Met Leu Leu Phe Leu Leu Phe Lys  
           625                  630                  635                  640  
 Trp Arg Met Arg Ser Leu Leu Lys Glu Lys Glu Arg Leu Glu Ala Leu  
           645                  650                  655  
 Val Gly Gln Arg Thr Lys Gln Leu Val His Gln Lys Asn Glu Ile Glu  
           660                  665                  670  
 Glu Lys Ser Leu Lys Leu Glu Lys Ala Leu Lys Glu Leu Gly Gln Ala  
           675                  680                  685  
 Gln Asp Glu Leu Val Arg Gln Glu Lys Met Ala Thr Val Gly Lys Leu  
           690                  695                  700  
 Thr Gln Gly Leu Ile Asp Arg Ile Leu Asn Pro Leu Asn Tyr Ile Asn  
           705                  710                  715                  720  
 Asn Phe Ser His Leu Thr Ser Gly Leu Leu Lys Asp Leu Tyr Gln Asn  
           725                  730                  735  
 Leu Glu Ser Val Lys Glu Leu Leu Asp Glu Asp Thr Tyr Leu Asp Ser  
           740                  745                  750  
 Val Asp Val Ile Asn Met Met Arg Asp Asn Leu Glu Lys Ile Glu Glu  
           755                  760                  765  
 His Gly Ser Asn Thr Thr Arg Val Leu Lys Ala Met Glu Glu Ile Leu  
           770                  775                  780  
 Arg Asp Arg Asn Arg Gln Leu Glu Lys Thr Glu Leu Ile Gly Leu Cys  
           785                  790                  795                  800  
 Arg Lys Asp Met Glu Leu Leu Ser Ser Tyr Tyr Gln Lys Glu Ile Thr  
           805                  810                  815  
 Ala Met His Ile Ala Val Arg Thr Ser Leu Pro Asp Asn Pro Leu Phe  
           820                  825                  830  
 Ile Asp Gly Asn Ala Glu Gln Leu Gly Lys Thr Ile Met Ser Leu Leu  
           835                  840                  845  
 Asn Asn Gly Met Tyr Ala Ile Ala Lys Lys Tyr Gly Lys Lys Ala Tyr  
           850                  855                  860  
 Pro Ala Glu Ile Gly Leu Ala Leu Glu Ser Lys Asp Gly Gln Ala Val

865	870	875	880
Ile Arg Leu Tyr Asp Asn Gly Val Gly Ile Glu Gln Ser Ile Leu Asp			
885	890	895	
Lys Ile Phe Asp Pro Phe Thr Thr Lys Thr Thr Gly Glu Ala Ala			
900	905	910	
Gly Ile Gly Leu Tyr Leu Ser Lys Glu Ile Ile Leu Asn His His Gly			
915	920	925	
Gln Ile Ala Val Arg Ser Glu Lys Asp Glu Leu Thr Glu Phe Thr Ile			
930	935	940	
Thr Leu Pro Leu Trp Glu Glu Lys Ser Val			
945	950		

&lt;210&gt; 6805

&lt;211&gt; 343

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6805

Ser Met Ile Pro Lys Val Ser Val Ile Val Pro Ile Tyr Asn Val Glu			
1	5	10	15
Lys Tyr Leu Asp Gln Cys Val Gln Ala Leu Leu Ala Gln Thr Leu Ser			
20	25	30	
Asp Ile Glu Ile Ile Leu Ile Asp Asp Glu Ser Pro Asp Asn Cys Pro			
35	40	45	
Lys Ile Cys Asp Asp Tyr Ala Ala Gln Tyr Pro Asn Ile Lys Val Ile			
50	55	60	
His Lys Lys Asn Ala Gly Leu Gly Met Ala Cys Asn Ser Gly Leu Asp			
65	70	75	80
Val Ala Thr Gly Glu Tyr Val Ala Phe Cys Asp Ser Asp Asp Tyr Val			
85	90	95	
Asp Ser Asp Met Tyr Met Thr Met Tyr Asn Val Ala Gln Lys Tyr Thr			
100	105	110	
Cys Asp Ala Val Phe Thr Gly Leu Lys Arg Ile Thr Met Ala Gly Ile			
115	120	125	
Pro Thr Gly Thr Val Thr His Gln Lys Glu Phe Lys Leu Tyr Lys Asn			
130	135	140	
Lys Asn Glu Ile His Thr Leu Leu Lys Asp Leu Ile Ala Ser Asp Pro			
145	150	155	160
Tyr Ala Arg Glu Arg Ala Ile Gln Val Ser Ala Lys Val Val Leu			
165	170	175	
Tyr Arg Arg Asn Leu Ile Glu Lys Lys His Leu Arg Phe Val Ser Glu			
180	185	190	
Arg Ile Leu Pro Ser Glu Asp Leu Ile Phe Asn Val Asp Val Leu Ala			
195	200	205	
Asn Ser Asn Ile Val Cys Val Leu Pro Gln Thr Phe Tyr Asn Tyr Arg			
210	215	220	
Thr Asn Pro Ile Ser Ile Ser His Thr Ile Lys Lys Asp Lys Phe Ser			
225	230	235	240
Leu Phe Lys Gln Leu Tyr Ile Glu Ile Thr Asp Arg Cys His Arg Leu			
245	250	255	
Gly Val Glu Asp Asn Val Gln Leu Arg Ile Gln Arg Met Phe Leu Gly			
260	265	270	
Tyr Thr Arg Asn Tyr Ile Cys Asn Ile Leu Asn Ser Ser Ile Thr Asn			
275	280	285	
Ile Glu Lys Lys Gln Ile Thr Ser Ser Ile Cys Lys Asp Gly Ile Trp			
290	295	300	
Lys Pro Ile Trp Lys Thr Tyr Pro Leu Ser Val Met Pro Leu Pro His			
305	310	315	320
Arg Ile Phe Thr Phe Ala Met Arg His Asn Phe Tyr Ser Leu Leu Leu			

3338

325

Val	Leu	Ala	Lys	Ile	Lys	Lys
340						

330

335

<210> 6806  
<211> 76  
<212> PRT  
<213> B.*fragilis*

```

<400> 6806
Lys Lys Glu Pro Glu Ala Phe Ile Gln Ile Asn Tyr Ala Asp Ser Tyr
1 5 10 15
Leu Arg Phe Ser Leu Ile Cys Tyr Gly Pro Gly Asn Lys Gly Gln Gln
20 25 30
Asn Ile Ala Lys Gln Asn Ser Asn Arg Ser Ala Arg Ile Lys Thr Glu
35 40 45
Lys Arg Ser Ala Pro Leu Pro Leu Arg Gln Thr Arg Ser Leu Pro Arg
50 55 60
Tyr Cys Trp Pro Cys Asn Ile Ala Ile His Asp Phe
65 70 75

```

<210> 6807  
<211> 143  
<212> PRT  
<213> B.*fragilis*

```

<400> 6807
Ala Met Thr Leu Leu Gln Phe Arg Pro Val Asp Gly Arg Leu Asp Glu
1           5           10          15
Ile Leu Ser Met Leu Met His Ser Arg Glu Val Ala Ser His Pro Ser
20          25          30
Leu Ser Tyr Ala Ile Arg Leu Val Ser Glu Glu Ile Ile Val Asn Ile
35          40          45
Leu Asn Tyr Ala Tyr Pro Gln Gln Ala Glu Gly Tyr Leu Thr Leu Cys
50          55          60
Leu Trp Asp Glu Asp Gly Glu Ile Thr Leu Glu Phe Ile Asp Gly Gly
65          70          75          80
Ile Pro Phe Asn Pro Leu Asp Lys Ala Asp Pro Asp Ile Ser Leu Pro
85          90          95
Leu Glu Gln Arg Glu Ile Gly Gly Leu Gly Ile Phe Leu Val Arg Glu
100         105         110
Met Met Asp Asp Val Ala Tyr Thr Tyr Val Asn Lys Glu Asn Arg Leu
115         120         125
Thr Ile Lys Lys Lys Tyr Leu Gln Pro Thr Asp Glu Pro Val Ser
130         135         140

```

<210> 6808  
<211> 516  
<212> PRT  
<213> B.*fragilis*

```

<400> 6808
Tyr His Met Pro Ser Asp Ser Gln Asn Asn Lys Arg Ile Ala Gln Asn
      1           5           10          15
Thr Leu Leu Leu Tyr Phe Arg Met Leu Phe Leu Met Leu Val Ser Leu
      20          25          30
Tyr Thr Ser Arg Val Asn Leu Asn Ala Leu Gly Ile Glu Asp Phe Gly
      35          40          45
Ile Tyr Asn Val Val Gly Gly Leu Val Ala Met Phe Ser Ile Ile Ser

```

50	55	60
Gly Ser Leu Val Ser Ser	Ile Ser Arg Phe Ile Thr Phe Glu Leu Gly	
65	70	75
Thr Glu Asn Lys Glu Lys Leu Lys Lys	Val Phe Ser Thr Ala Val Ser	80
85	90	95
Ile Gln Phe Phe Leu Val Ile Ile Val Val	Ile Leu Ala Glu Thr Ile	
100	105	110
Gly Leu Trp Phe Leu Asn Asn Lys Met Val Ile Pro Glu Glu Arg Ile		
115	120	125
Leu Ala Ala Asn Ile Ile Tyr Gln Phe Ser Ile Ile Ser Phe Ala Leu		
130	135	140
Ser Leu Met Ser Ile Pro Tyr Thr Gly Thr Ile Val Ala His Glu Lys		
145	150	155
Met Ser Ala Phe Ala Tyr Ile Ser Ile Phe Asp Val Ile Gly Lys Leu		160
165	170	175
Ala Val Ala Leu Thr Ile Ser Ile Ala Pro Ile Asp Lys Leu Ile Trp		
180	185	190
Phe Ala Gly Phe Ile Val Phe Asn Ser Thr Ile Ile Gln Ser Ile Tyr		
195	200	205
Ile Phe Tyr Cys Lys Arg His Phe Glu Glu Cys Thr Tyr His Phe Ile		
210	215	220
Phe Asp Lys Ser Leu Leu Lys Asn Met Phe Gly Phe Ala Gly Trp Asn		
225	230	235
Phe Ile Gly Ser Ile Ala Ala Ile Leu Arg Asp Gln Gly Gly Asn Ile		
245	250	255
Val Ile Asn Met Phe Cys Gly Pro Ala Val Asn Ala Ala Arg Gly Val		
260	265	270
Ala Met Gln Val Asn Asn Ala Val Ser Gly Phe Val Ser Asn Phe Gln		
275	280	285
Thr Ala Leu Asn Pro Gln Ile Thr Lys Ser Tyr Ala Ser Gly Asn Tyr		
290	295	300
Asp Tyr Met Met Gln Leu Ile Phe Gln Gly Ala Arg Leu Ser Tyr Tyr		
305	310	315
Ile Leu Leu Ile Leu Ala Leu Pro Ile Ile Ser Asn Thr His Phe Ile		320
325	330	335
Leu Gln Leu Trp Leu Gly Gln Val Pro Lys His Thr Val Leu Phe Val		
340	345	350
Gln Leu Val Leu Phe Phe Thr Met Ser Glu Ser Leu Ala Asn Pro Leu		
355	360	365
Ile Asn Ala Met Leu Ala Thr Gly Lys Ile Lys Lys Phe Gln Ile Ile		
370	375	380
Val Gly Gly Leu Asn Leu Val Asn Leu Pro Leu Ser Tyr Ile Cys Leu		
385	390	395
Arg Leu Gly Cys Ile Pro Glu Ser Val Val Ile Ile Ala Ile Ile Ile		400
405	410	415
Ser Met Ile Cys Glu Met Ala Arg Val Ile Met Leu Arg Asn Met Ile		
420	425	430
His Phe Pro Ala Arg Ser Phe Leu Lys Lys Val Tyr Phe Asn Val Ile		
435	440	445
Phe Val Thr Ile Thr Ala Ser Ile Leu Pro Leu Tyr Leu His Phe Ile		
450	455	460
Leu Glu Glu Asn Ile Tyr Thr Phe Thr Leu Ile Ser Val Val Ser Phe		
465	470	475
Ser Cys Thr Leu Leu Ser Ile Leu Tyr Ile Gly Cys Ser Ser Glu Glu		480
485	490	495
Arg Val Met Val Phe Ser Lys Val Lys Val Ile Val Asn Lys Val Ser		
500	505	510
Lys Arg Tyr Lys		
515		

<210> 6809  
<211> 150  
<212> PRT  
<213> B.*fragilis*

<400> 6809

Ser	Gln	Phe	Thr	His	Thr	Asn	His	Met	Thr	Ile	Ala	Val	Asp	Phe	Asp
1					5				10					15	
Gly	Thr	Ile	Val	Glu	His	Arg	Tyr	Pro	Lys	Ile	Gly	Glu	Glu	Ile	Pro
					20				25					30	
Phe	Ala	Thr	Glu	Thr	Leu	Lys	Ile	Leu	Ala	Gln	Glu	Arg	His	Lys	Leu
						35			40				45		
Ile	Leu	Trp	Thr	Val	Arg	Glu	Gly	Glu	Leu	Leu	Glu	Glu	Ala	Ile	Glu
						50			55			60			
Trp	Cys	Arg	Gln	Arg	Gly	Val	Phe	Phe	Tyr	Ser	Val	Asn	Lys	Asp	Tyr
						65			70			75			80
Pro	Glu	Glu	Glu	Lys	Ser	His	Asn	Gly	Phe	Ser	Arg	Lys	Leu	Lys	Ala
						85				90				95	
Asp	Leu	Phe	Ile	Asp	Asp	Arg	Asn	Leu	Gly	Gly	Leu	Pro	Asp	Trp	Gly
						100			105				110		
Thr	Ile	Tyr	Gln	Met	Ile	His	Glu	Gln	Lys	Pro	Tyr	Glu	Pro	Val	Leu
						115			120			125			
Cys	Asp	Arg	Gln	Lys	Pro	Thr	Gly	Asp	Leu	Ser	Trp	Ile	Glu	Lys	Leu
						130			135			140			
Leu	Gly	Lys	Arg	Asn	Lys										
						145			150						

<210> 6810

<211> 354

<212> PRT

<213> B.*fragilis*

<400> 6810

Arg	Lys	Arg	Leu	Thr	Met	Asn	Asn	His	Val	Val	Ile	Met	Ala	Gly	Gly
1					5				10					15	
Ile	Gly	Ser	Arg	Phe	Trp	Pro	Met	Ser	Thr	Pro	Glu	Cys	Pro	Lys	Gln
					20				25					30	
Phe	Ile	Asp	Ile	Leu	Gly	Cys	Gly	Lys	Thr	Leu	Ile	Gln	Leu	Thr	Val
						35			40				45		
Glu	Arg	Phe	Gly	Asn	Val	Cys	Pro	Gln	Glu	Asn	Met	Trp	Val	Val	Thr
						50			55			60			
Ser	Glu	Lys	Tyr	Ile	Asp	Thr	Ile	Arg	Glu	Gln	Leu	Pro	Gly	Ile	Pro
						65			70			75			80
Glu	Ser	Asn	Ile	Leu	Ala	Glu	Pro	Cys	Pro	Arg	Asn	Thr	Ala	Pro	Cys
						85				90				95	
Ile	Ala	Tyr	Ala	Cys	Trp	Lys	Ile	Lys	Lys	Tyr	Pro	Glu	Ala	Asn	
						100			105			110			
Ile	Val	Val	Thr	Pro	Ser	Asp	Gln	Val	Val	Ile	Asp	Thr	Thr	Glu	Phe
						115			120			125			
Arg	Arg	Val	Ile	Glu	Lys	Ala	Leu	Leu	Phe	Thr	Asp	Lys	Ser	Ser	Ala
						130			135			140			
Ile	Ile	Thr	Leu	Gly	Ile	Lys	Pro	Ala	Arg	Pro	Glu	Thr	Gly	Tyr	Gly
						145				155				160	
Tyr	Ile	Ala	Ala	Gly	Glu	Pro	Ile	Thr	Arg	Asp	Lys	Glu	Ile	Phe	His
							165			170				175	
Val	Glu	Ala	Phe	Lys	Glu	Lys	Pro	Asp	Lys	Glu	Thr	Ala	Glu	Lys	Tyr
							180			185			190		
Leu	Ala	Ala	Gly	Asn	Tyr	Phe	Trp	Asn	Ala	Gly	Ile	Phe	Val	Trp	Asn

195	200	205
Val Arg Thr Ile Thr Ala Val Met Arg Val Tyr Ala Pro Gly Ile Ala		
210	215	220
Gln Ile Phe Asp Arg Ile Tyr Pro Asp Phe Tyr Thr Glu Arg Glu Glu		
225	230	235
240		
Glu Ser Val Lys Lys Leu Phe Pro Thr Ala Glu Ser Ile Ser Ile Asp		
245	250	255
Tyr Ala Val Met Glu Lys Ala Glu Glu Ile Tyr Val Leu Pro Ala Gln		
260	265	270
Met Gly Trp Ser Asp Leu Gly Thr Trp Gly Ala Leu His Thr Leu Leu		
275	280	285
Pro Lys Asp Lys Glu Gly Asn Ala Thr Val Gly Pro Asp Ile Arg Met		
290	295	300
Tyr Glu Ser Gln Asn Cys Met Val His Ala Ser Gln Glu Lys Arg Val		
305	310	315
320		
Val Ile Gln Gly Leu Asn Asp Tyr Ile Ile Ala Glu Lys Asp Asn Ile		
325	330	335
Leu Leu Ile Cys Gln Leu Ser Glu Glu Gln Arg Ile Lys Asp Phe Ser		
340	345	350
Lys Glu		

<210> 6811  
 <211> 369  
 <212> PRT  
 <213> B.fragilis

<400> 6811  
 Tyr Asn Thr Thr Met Thr Asn Ile Leu Gly Leu Lys Gln Asn Arg Trp  
 1           5           10           15  
 Ile Val Gly Ala Val Leu Leu Leu Thr Thr Cys Asn Leu Gln Ala Gln  
 20           25           30  
 Glu Gln Pro Asn Ala Arg Glu Lys Phe Glu Arg Gly Asn Trp Phe Val  
 35           40           45  
 Ser Gly Ala Leu Asn Gly Glu Trp Leu Thr Lys Thr Ile Gly Asn Val  
 50           55           60  
 Tyr Ala Gly Gly Lys Ile Ser Gly Gly Val Tyr Leu Thr Pro Leu Ser  
 65           70           75           80  
 Gly Phe Arg Ala Thr Ala Glu Ile Gly Lys Asn Trp Ile Gly Asn Asp  
 85           90           95  
 Thr Glu Ala Thr Gln Leu Ser Ala Asn Leu Asp Tyr Met Leu Thr Leu  
 100          105          110  
 Ile Gly Asn Asn Gly Phe Lys Arg Phe Asn Leu Ala Ala Ile Leu Gly  
 115          120          125  
 Ala Gly Phe Asn Tyr Tyr Asp Phe Gly Asp Asn Asp Pro Lys Tyr Thr  
 130          135          140  
 Arg Val Asn Thr Ile Ser Gly Asn Phe Ser Ile Gln Ala Ser Tyr Asn  
 145          150          155          160  
 Val Asn Arg Lys Phe Ser Ile Phe Ile Glu Pro Gly Leu Lys Val Leu  
 165          170          175  
 Pro Lys Tyr Tyr Ser Lys Glu Leu Asn Asn Lys Ile Tyr Met Gln Ser  
 180          185          190  
 Asn Leu Thr Ile Gly Leu Ala Tyr Thr Phe Arg Asp Lys Tyr Arg Lys  
 195          200          205  
 Ser Val Asp Asn Ser Ile His Pro Leu Tyr Leu Pro Glu Ala Asp Leu  
 210          215          220  
 Leu Glu Ile Lys Glu Lys Ile Gly Met Leu Cys Glu Glu Val Met Gln  
 225          230          235          240  
 Met Lys Gln Glu Leu Lys Glu Arg Arg Lys Ile Thr Asp Gly Gln Asn

245	250	255
Leu Met Ile Val Pro Gln Lys Asp Ala	Leu Ser Ile Asp Ile Met Phe	
260	265	270
Asp Glu Phe Ser Ser Phe Val Ser Glu Glu Gln Gly Gln Lys Ile Asp		
275	280	285
Gly Ile Gly Glu Trp Met Lys Asn Asn Asn Ala Ser Ile Arg Ile Ile		
290	295	300
Ala Phe Ser Asp Asn Leu Thr Asp Lys Ala Asp Gln Glu Leu Arg		
305	310	315
Lys Arg Arg Ser Glu Ala Ile Arg Lys Ile Leu Ile Glu Lys Tyr His		
325	330	335
Ile Ser Pro Glu Arg Ile Ser Glu Ser Thr Pro Glu Ala Met Gly Tyr		
340	345	350
Glu Asn Lys Thr Gly Cys Asn Ala Met Ile Val Tyr Ile Pro Glu Asn		
355	360	365
Lys		

<210> 6812  
<211> 583  
<212> PRT  
<213> B.fragilis

<400> 6812		
Arg Arg Glu Thr Thr Tyr Lys Leu Lys Glu Thr Thr Phe Lys Tyr Met		
1	5	10
Lys Lys Ser Ile Leu Phe Thr Phe Val Leu Cys Leu Leu Ser Gln Trp		
20	25	30
Ser Val Ala Gln Asp Pro Lys Trp Val Glu Lys Ala Lys Arg Ser Val		
35	40	45
Phe Ser Ile Val Thr Tyr Asp Lys Asp Asp Lys Ile Gln Asn Thr Gly		
50	55	60
Asn Gly Phe Phe Val Thr Glu Asp Gly Val Ala Leu Ser Asp Tyr Ser		
65	70	75
Leu Phe Lys Gly Ala Gln Arg Ala Val Ile Ile Asn Ser Glu Gly Glu		
85	90	95
Lys Met Pro Val Glu Cys Ile Leu Gly Ala Asn Asp Met Tyr Asp Ile		
100	105	110
Ile Lys Phe Arg Val Gly Ile Thr Val Lys Lys Val Pro Ala Leu Gln		
115	120	125
Val Ala Ala Leu Ala Pro Ala Val Gly Ala Glu Val Tyr Leu Leu Pro		
130	135	140
Tyr Ser Thr Gln Lys Gly Gly Asn Val Thr Arg Gly Lys Val Lys Lys		
145	150	155
Val Asp Asn Ile Gly Gly Asp Lys Tyr His Tyr Tyr Thr Leu Asp Met		
165	170	175
Val Leu Lys Asp Lys Met Val Ser Cys Pro Val Thr Thr Ala Asp Gly		
180	185	190
Lys Val Phe Gly Val Ala Gln Lys Ser Ser Gly Gln Asp Thr Ala Ser		
195	200	205
Ile Ser Tyr Ala Ala Gly Ala Ala Phe Ala Met Ser Gln Asn Ile Ser		
210	215	220
Ala Leu Ala Leu Ser Asp Pro Ala Leu Asn Ala Ile Gly Ile Lys Lys		
225	230	235
Gly Leu Pro Glu Asp Glu Asp Gln Ala Leu Val Tyr Leu Phe Ile Ala		
245	250	255
Ser Thr Gln Ser Thr Pro Glu Ala Tyr Ala Ile Ala Leu Asp Asp Phe		
260	265	270
Ile Lys Thr Phe Pro Asn Ser Ala Asp Gly Tyr Leu Arg Arg Ala Gly		

275	280	285
Asn Tyr Val Phe Ala Asp Lys Asp Glu Asn His Met	Asp Lys Ala Ala	
290	295	300
Ala Asp Leu Glu His Ala Leu Lys Val Ala Gln	Lys Lys Asp Asp Thr	
305	310	315
Tyr Tyr Asn Ile Ala Lys Leu Ile Tyr Asn Tyr	Gln Leu Ser Lys Pro	320
325	330	335
Glu Thr Val Tyr Lys Asp Trp Thr Tyr Asp Lys Ala	Leu Glu Asn Val	
340	345	350
Arg Ser Ala Ile Ala Ile Gln Ser Leu Pro Val	Tyr Gln Gln Leu Glu	
355	360	365
Gly Asp Ile Leu Phe Ala Lys Gln Asp Tyr Ala	Gly Ala Phe Ala Ser	
370	375	380
Tyr Asp Lys Val Asn Gln Thr Glu Leu Ala Ser	Pro Ala Ser Phe Phe	
385	390	395
Ser Ala Ala Lys Ala Lys Glu Leu Ser Lys Ala Ala	Pro Glu Glu Val	400
405	410	415
Ile Ala Leu Leu Asp Ser Cys Ile Ala Arg Cys	Gln Thr Pro Ile Thr	
420	425	430
Ser Asp Leu Ala Pro Tyr Leu Leu Glu Arg Ala	Gln Met Tyr Met Asn	
435	440	445
Val Glu Lys Tyr Arg Leu Ala Leu Ala Asp Tyr	Asp Ala Tyr Phe Asn	
450	455	460
Ala Val Lys Gly Ser Val Asn Asp Leu Phe	Tyr Tyr Arg Glu Gln	
465	470	475
Ala Ala Phe Lys Ala Lys Gln Phe Gln Arg Ala	Leu Asp Asp Ile Ala	480
485	490	495
Lys Ala Ile Glu Leu Asn Pro Glu Asp Leu Thr	Tyr Arg Ala Glu Gln	
500	505	510
Ala Val Val Asn Leu Arg Val Gly Arg Tyr Glu	Ala Glu Lys Val	
515	520	525
Leu Lys Asp Ala Leu Ala Ile Asp Pro Lys Tyr	Ala Glu Gly Tyr Arg	
530	535	540
Leu Leu Gly Ile Cys Gln Ile Gln Leu Lys	Gln Glu Lys Ala Ala Cys	
545	550	555
Ala Ser Phe Ala Lys Ala Lys Glu Leu Gly Asp	Pro Asn Val Asp Glu	560
565	570	575
Leu Ile Lys Lys His Cys Lys		
580		

&lt;210&gt; 6813

&lt;211&gt; 105

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6813

Asn Lys Arg Thr Met Glu Lys Tyr Glu Ile His Phe Val	Gly Ser Val	
1	5	10
Leu Asp Ser Asn Thr Ser Gly Asp Glu Gln Ala Lys	Ile Val Ala Leu	
20	25	30
Ile Glu Gln Gly His Ser Val Ala Leu Asp Leu Ser	Gly Cys Ser Tyr	
35	40	45
Val Ser Ser Ala Gly Leu Arg Val Met Leu Tyr Ala	Phe Lys Leu Ala	
50	55	60
Lys Ala Lys Ser Arg Asp Val Cys Leu Val	Gly Val Ser Gln Glu Val	
65	70	75
Lys Asp Val Met His Met Thr Gly Phe Asp Lys	Phe Phe Arg Phe Tyr	80
85	90	95
Gln Thr Leu Asp Glu Leu Ser Gln Pro		

100

105

&lt;210&gt; 6814

&lt;211&gt; 647

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6814

Cys Ile Phe Ala Pro Pro Lys Thr Lys Thr Val Lys Gln Met Lys Gln  
 1 5 10 15  
 Asn Phe Phe His Arg Tyr Leu Ser Ala Lys Val Leu Pro Ile Trp Thr  
 20 25 30  
 Ile Leu Leu Ile Asp Ile Phe Ile Ile Val Ala Ser Cys Leu Leu Ala  
 35 40 45  
 Tyr Ser Leu Arg Tyr Asp Phe Arg Ser Ile Phe Leu Asp Ser Ser Thr  
 50 55 60  
 Ile Asp Lys Thr Ile Leu Trp Thr Val Val Ala Asn Leu Ile Phe Phe  
 65 70 75 80  
 Arg Val Phe Arg Thr Tyr Ser Asn Val Leu Arg Phe Ser Ser Phe Val  
 85 90 95  
 Asp Ile Met Arg Ile Phe Val Ser Leu Thr Val Ser Tyr Gly Val Leu  
 100 105 110  
 Met Ile Leu Ser Leu Leu Leu Asp Ala Tyr Leu Gly Ile Arg Ile Gly  
 115 120 125  
 Ala Ile Ser Val Leu Phe Met Ala Tyr Val Ile Asn Phe Ala Met Met  
 130 135 140  
 Ala Cys Ser Arg Ile Val Val Lys Met Phe Phe Glu Val Leu Asn Phe  
 145 150 155 160  
 Asp Gly Ser His Thr Thr Asn Val Phe Ile Tyr Gly Ala Lys Glu Ala  
 165 170 175  
 Gly Val Asn Ile Ala Lys Ser Leu Arg Val Asn Leu Arg Asn His Tyr  
 180 185 190  
 Arg Leu Arg Gly Phe Ile Ala Asp Glu Pro Glu Leu Ile Gly Lys Val  
 195 200 205  
 Met Met Gly Ala Lys Val Phe Pro Asn Asp Glu Ala Leu Ile Glu Asn  
 210 215 220  
 Met Asn Asp Arg Asp Val His Thr Ile Ile Val Ser Pro Ala Lys Met  
 225 230 235 240  
 Glu Lys Leu Lys Lys Ser Asp Met Ile Asp Thr Leu Leu Ser Asn Asn  
 245 250 255  
 Val Lys Leu Leu Thr Ala Pro Pro Leu Ser Glu Trp Gly Gly Gln Ala  
 260 265 270  
 Leu Asn Lys Thr Gln Leu Lys Glu Ile Gln Ile Glu Asp Leu Leu Gln  
 275 280 285  
 Arg Glu Pro Ile Glu Val Asp Ile His Lys Ile Ala Ser His Leu Glu  
 290 295 300  
 Gly Lys Arg Val Met Ile Thr Gly Ala Ala Gly Ser Ile Gly Ser Glu  
 305 310 315 320  
 Ile Met Arg Gln Val Ala Ser Phe Asn Pro Tyr Lys Leu Ile Leu Ile  
 325 330 335  
 Asp Gln Ala Glu Thr Pro Leu His Asp Ile Arg Leu Glu Leu Gln Asp  
 340 345 350  
 Arg Trp Arg Asp Ile Asp Ala Glu Thr Ile Val Ala Asp Ile Ser Asn  
 355 360 365  
 Ala Thr Arg Met Glu Ala Ile Phe Arg Glu Tyr Lys Pro Gln Tyr Ile  
 370 375 380  
 Phe His Ala Ala Ala Tyr Lys His Val Pro Met Met Glu Asp Asn Val  
 385 390 395 400  
 Ser Glu Ser Ile Gln Ile Asn Val Ser Gly Thr Arg Thr Leu Ala Asp

405	410	415
Leu Ala Val Lys Phe Gly Ser Glu Lys Phe Val Met Ile Ser Thr Asp		
420	425	430
Lys Ala Val Asn Pro Thr Asn Val Met Gly Cys Ser Lys Arg Ile Cys		
435	440	445
Glu Ile Tyr Val Gln Ser Leu Ala Lys Lys Leu Gln Lys Glu Gly Thr		
450	455	460
Arg Ser Val Gln Phe Ile Thr Thr Arg Phe Gly Asn Val Leu Gly Ser		
465	470	475
Asn Gly Ser Val Ile Pro Arg Phe Arg Asp Gln Ile Gln Arg Gly Gly		480
485	490	495
Pro Val Thr Val Thr His Pro Glu Ile Ile Arg Tyr Phe Met Thr Ile		
500	505	510
Pro Glu Ala Cys Arg Leu Val Leu Glu Ala Gly Ser Met Gly Asn Gly		
515	520	525
Gly Glu Ile Tyr Ile Phe Asp Met Gly Lys Pro Val Lys Ile Val Asp		
530	535	540
Leu Ala Lys Arg Met Ile Ser Leu Ser Gly Arg Thr Asp Val Lys Ile		
545	550	555
Glu Phe Thr Gly Leu Arg His Gly Glu Lys Leu Tyr Glu Glu Leu Leu		560
565	570	575
Asn Val Lys Glu Leu Thr Lys Pro Thr Tyr His Glu Lys Ile Met Ile		
580	585	590
Ala Thr Val Arg Glu Tyr Asp Tyr Asp Glu Val Lys Glu Arg Ile Gln		
595	600	605
Lys Leu Ile Asp Val Ser Tyr Thr Tyr Asp Gln Met Lys Ile Val Ala		
610	615	620
Ala Met Lys Asp Ile Val Pro Glu Phe Val Ser Lys Asn Ser Cys Phe		
625	630	635
Glu Ala Leu Asp Lys Lys Asp		640
645		

&lt;210&gt; 6815

&lt;211&gt; 383

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6815

Thr Leu His Ala Thr Ser Thr Ser Phe Phe Tyr Tyr Thr Asn Gln Ser			
1	5	10	15
Val Thr Leu Val Phe Leu Gln Asp Ala Phe Asp Thr Leu Leu Gly Lys			
20	25	30	
Lys Gln Thr Leu His Asp Gly Pro Cys Ala Leu Asn Ile Pro Phe Asn			
35	40	45	
Leu Lys Ala Leu Ile Phe Met Ser Ser Pro Lys Ile Ser Ile Ile Ile			
50	55	60	
Pro Val Tyr Met Ala Glu Ser Tyr Leu His Arg Cys Val Asp Ser Ile			
65	70	75	80
Ile Thr Gln Thr Phe Thr Asp Trp Glu Leu Leu Val Asp Asp Gly			
85	90	95	
Ser Pro Asp His Ser Gly Glu Leu Cys Glu Lys Tyr Ala Ser Ala Tyr			
100	105	110	
Lys Ser Arg Ile Lys Ala Phe His Lys Pro Asn Gly Gly Val Ala Ser			
115	120	125	
Ala Arg Glu Phe Gly Met Gln Gln Ala Arg Gly Glu Tyr Ser Ile His			
130	135	140	
Val Asp Pro Asp Asp Trp Ile Asp Ser Asn Thr Leu Glu Glu Leu Tyr			
145	150	155	160
Gln Gln Ala Val Lys Glu Gln Ala Asp Met Val Ile Cys Asp Phe Met			

165	170	175
Met Glu Tyr Pro Asn Arg Gln Ile His Asn Cys Gln Lys Pro Gln Leu		
180	185	190
Leu Asp Ser Ser Ser Phe Met His Gln Leu Leu Gln Gln Glu Arg His		
195	200	205
Gly Ser Leu Cys Asn Lys Leu Ile Arg Thr Glu Leu Tyr His Lys Tyr		
210	215	220
Gln Leu His Phe Pro Glu Lys Met Ile Cys Trp Glu Asp Leu Tyr Ile		
225	230	235
Cys Cys Ser Ile Leu Leu His Gly Cys Lys Leu Ala Tyr Val Pro His		240
245	250	255
Ala Leu Tyr His Tyr Asp Phe Tyr Thr Asn Asp Asn Ser Met Val Arg		
260	265	270
His Thr Asp Met Arg Gly Leu Gln Ala Gln Ile Asp Phe Cys Arg Leu		
275	280	285
Met Gln Ala Lys Ile Ser Pro Glu Tyr Leu Pro Glu Leu Asn Glu Leu		
290	295	300
Lys Gly Ile Thr Leu Ile Thr Ala Phe Arg Asn Gln Leu Leu Asn Glu		
305	310	315
Gln Ala Ile Arg Ser Leu Phe Pro Glu Ile Asn Asp Trp Tyr Val Thr		320
325	330	335
Arg Tyr Gly His Asp Tyr Glu Lys Ser Asn Tyr Tyr Gly Leu Thr Leu		
340	345	350
Val Leu Arg Gly Tyr Asn Phe Lys Thr Ala Arg Arg Arg Met Phe Val		
355	360	365
Ala Lys Phe Leu Val Gln Ile Lys Asn Lys Ile Thr Arg Met Leu		
370	375	380

&lt;210&gt; 6816

&lt;211&gt; 549

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6816

Thr Thr Asn Ala Met Lys Leu Arg Thr Ile Val Lys Ile Ala Val Ile		
1	5	10
Ser Ser Val Val Leu Leu Cys Thr Gly Phe Ala Met Phe Ser Phe Phe		15
20	25	30
Arg Leu Ser Ala Ala Glu Gly Arg Lys Asp Phe Asn Leu Tyr Thr Leu		
35	40	45
Val Pro Gly Ser Ala Thr Val Val Leu Glu Thr Asp Asp Leu Ala Gly		
50	55	60
Met Ile Gln Gly Ile Asn Glu Leu Ser Cys Ser Lys Asp Arg His Phe		
65	70	75
Leu Tyr Val Ser Lys Leu Phe Ser Tyr Leu Lys Leu His Leu Tyr Thr		80
85	90	95
Leu Leu Glu Asp Thr Pro His Gly Leu Ser Lys Gln Met Asn Lys Val		
100	105	110
Leu Leu Ser Phe His Glu Pro Asp Asn Asp Arg Asn Gln Val Leu Tyr		
115	120	125
Cys Ser Leu Gly Asn Gly Asp Tyr Glu Leu Val Glu Lys Phe Ile Arg		
130	135	140
Lys Tyr Cys Ser Ser Ser Phe Pro Ser Lys Leu Phe Asp Tyr Lys Gly		
145	150	155
Glu Glu Ile Arg Ile Tyr Pro Met Pro Asp Asp Ser Phe Leu Ala Cys		160
165	170	175
Tyr Phe Thr Ser Asp Phe Leu Val Val Ser Tyr Gln Lys Lys Leu Ile		
180	185	190
Glu Gln Val Ile Asp Ala Arg Leu Ser Lys Lys Ser Leu Leu Thr Asp		

195	200	205
Ala Ser Phe Ala Lys Val His Glu Asp Lys Arg Ala Arg Val Ala Ala		
210	215	220
Thr Ile Tyr Ala Arg Met Gln Pro Leu Ser Met Gly Lys Ala Thr Asp		
225	230	235
Gly Ile Arg Ser Cys Thr Gln Leu Gly Gly Trp Thr Glu Phe Asp Met		
245	250	255
Lys Met Asn Gly Asp Ala Ile Tyr Phe Ser Gly Val Ser His Asp Thr		
260	265	270
Asp Thr Cys Leu Thr Phe Met Asn Val Leu Arg Gln Gln Gln Pro Val		
275	280	285
Glu Asp Phe Pro Gly Asp Ile Leu Pro Ala Ser Thr Phe Phe Phe Asn		
290	295	300
Lys Arg Ser Val Thr Asp Met Gln Ala Met Leu Asp Phe Thr Ala Arg		
305	310	315
Gln Glu Tyr Thr Thr Ser Thr Tyr Ser Asp Tyr Ile Arg Asp Arg Asp		
325	330	335
Gly Glu Leu Leu Ala Tyr Leu Lys Glu Asn Ala Gly Gly Glu Ile Val		
340	345	350
Thr Cys Leu Phe His Ser Thr Asp Thr Leu Ser Asn Pro Cys Ala Val		
355	360	365
Met Ser Ile Pro Leu Arg Asp Gly Gln Gln Ala Glu Arg Val Leu Gln		
370	375	380
Gly Met Leu Arg Thr Ala Pro Lys Glu Val Asp Gly Pro Pro Lys Pro		
385	390	395
Arg Thr Thr Phe Cys Lys Thr Pro Leu Arg Ala Tyr Thr Leu Tyr Val		
405	410	415
Leu Pro Arg Asn Thr Leu Phe Thr Gln Leu Thr Gly Ile Thr Glu Ser		
420	425	430
Ala Leu Tyr Ile Tyr Ala Cys Phe Tyr Glu Gly Arg Leu Val Leu Ala		
435	440	445
Pro Asp Val Glu Ser Leu Thr Ala Tyr Leu Arg His Leu Asp Lys Lys		
450	455	460
Glu Ile Leu Asp Asp Thr Pro Gly Tyr Glu Glu Ala Val Val Asn Leu		
465	470	475
Ser Pro Ser Tyr Asn Phe Met Met Val Ala Asp Leu Gly Glu Thr Phe		
485	490	495
Ser Gln Pro Glu Asn Tyr Val Arg Leu Ile Pro Ala Phe Phe Phe Arg		
500	505	510
Asn Gln Glu Phe Phe Arg His Phe Ile Leu Ser Ala Gln Phe Thr Cys		
515	520	525
Thr Asp Gly Ile Val Tyr Pro Asn Val Val Leu Ile Tyr Lys Gly Glu		
530	535	540
Ser Asp Asp Ile Ser		
545		

&lt;210&gt; 6817

&lt;211&gt; 67

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6817

Ile Phe His Phe Lys Val Glu Ile Gly Asp Leu Asp Glu Ile Val Phe  
1 5 10 15Lys Glu Ile Phe Gly Leu Asp Leu Glu Ser Gln Val Val Glu Tyr Gly  
20 25 30His Lys Lys Cys Ser Ser Asp His Ala Trp Pro Glu Glu His Thr Gln  
35 40 45

Thr Lys Gln Ile Lys Ala Val Thr Ile Arg Ile Gly Thr Pro Leu His

50

55

60

Pro Val Leu  
65

&lt;210&gt; 6818

&lt;211&gt; 490

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;220&gt;

&lt;221&gt; UNSURE

&lt;222&gt; (49)

&lt;223&gt; Identity of amino acid sequences at the above locations are unknown.

&lt;400&gt; 6818

Lys	Lys	His	Tyr	Arg	Leu	Val	Ile	Ser	Met	Phe	Leu	Ser	Gly	Gly	Arg
1					5				10				15		
Thr	Leu	Ser	Trp	Arg	Val	Arg	Gly	Gln	Lys	Ser	Lys	Gly	His	Ser	Met
						20		25				30			
Leu	Ser	Glu	Glu	Gly	Glu	Ser	Glu	Glu	Asp	Met	Glu	Asp	Val	Leu	Phe
		35				40				45					
Xaa	Asn	Pro	Glu	Gln	Phe	Arg	Arg	Val	Ala	Pro	Tyr	Phe	Pro	Glu	Glu
	50				55				60						
Val	Phe	Glu	His	Leu	Pro	Asp	Leu	Leu	Ala	Gln	Gly	Val	Lys	Ala	Ala
	65				70			75			80				
Gly	Asn	Tyr	Arg	Glu	Arg	Asp	Met	Leu	Leu	Met	Ala	Met	Ile	Thr	Asn
		85				90				95					
Ile	Ser	Ala	Cys	Leu	Pro	Glu	Val	Arg	Val	Leu	Tyr	Asp	Gln	Val	Tyr
		100				105			110						
Tyr	Ser	Pro	His	Leu	Tyr	Tyr	Met	Val	Ile	Ala	His	Ala	Gly	Gly	Gly
		115				120			125						
Lys	Gly	Val	Val	Ser	Leu	Ala	Gly	Leu	Leu	Pro	Gly	Glu	Ile	His	Arg
	130				135				140						
Tyr	Tyr	Glu	Lys	Gln	Asn	Glu	Glu	Met	Arg	Leu	Val	Tyr	Asp	Lys	Ala
	145				150				155			160			
Phe	Phe	Glu	Trp	Glu	Leu	Glu	Leu	Lys	Lys	Ala	Gln	Ala	Glu	Lys	Arg
		165				170				175					
Ser	Pro	Asp	Phe	Ser	Leu	Arg	Pro	Lys	Glu	Pro	Val	Arg	Lys	Leu	Leu
		180				185			190						
Thr	Leu	Ser	Pro	Asn	Val	Ser	Lys	Ser	Met	Leu	Ile	Ser	Ala	Leu	Glu
		195				200			205						
Glu	Ser	Gly	Lys	Leu	Gly	Cys	Cys	Ile	Asn	Ala	Thr	Glu	Leu	Asp	Met
	210				215				220						
Val	Ser	Gly	Ala	Ile	Arg	Asn	Asp	Tyr	Gly	Lys	His	Asp	Asp	Val	Phe
	225				230				235			240			
Arg	Ala	Ala	Phe	Gln	His	Glu	Val	Val	Ser	Ala	Asp	Phe	Lys	Val	Asn
		245				250			255						
Gly	Arg	Gln	Val	Val	Ala	His	Asn	Pro	His	Leu	Ala	Cys	Leu	Ala	
		260			265				270						
Gly	Thr	Pro	Asn	Gln	Leu	Val	Arg	Phe	Ile	Pro	Ser	Leu	Glu	Asn	Gly
	275				280				285						
Leu	Tyr	Ser	Arg	Phe	Leu	Val	Tyr	Thr	Gly	Gln	Ser	Asp	Trp	Cys	Trp
	290				295				300						
Arg	Ser	Ala	Ala	Pro	Arg	Glu	Gly	Glu	Asp	His	Arg	Ala	Met	Phe	
	305				310				315			320			
Ala	Arg	Leu	Ser	Gly	Arg	Leu	Leu	Glu	Leu	His	Gln	Phe	Leu	Leu	Gln
		325				330			335						
Ser	Pro	Thr	Glu	Val	Thr	Phe	Thr	Ala	Ala	Gln	Trp	Glu	Glu	His	Thr
		340			345				350						

Ser Arg Phe Ser Ser His Leu Ser Glu Val Val Asn Glu Arg Asp Asp  
     355                       360                       365  
 Ser Pro Gly Ala Ile Val Leu Arg His Gly Leu Met Ala Ser Arg Ile  
     370                       375                       380  
 Ala Gly Val Leu Thr Ala Leu Arg Lys Gly Glu Cys Ala Trp Ala Met  
     385                       390                       395                       400  
 Pro Gln Tyr Val Cys Ser Asp Glu Asp Phe His Thr Ala Met Leu Met  
     405                       410                       415  
 Thr Asp Val Leu Leu Glu His Ser Leu Leu Ser Thr Ser Val Arg  
     420                       425                       430  
 Lys Ser Glu Ser Lys Ser Gly Pro Leu Lys Pro Tyr Phe Arg Leu Arg  
     435                       440                       445  
 Pro Val Leu Gln Thr Phe Ser Gly Thr Phe Thr Leu Tyr Asp Ala Met  
     450                       455                       460  
 Asp Arg Ala Val Glu Met Gly Ile Ser Val Pro Thr Phe Asn Cys Leu  
     465                       470                       475                       480  
 Phe Met Arg Thr Ile Glu Leu Lys Asn Asn  
     485                       490

&lt;210&gt; 6819

&lt;211&gt; 459

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6819

Asn Met Asn Tyr Gln Glu Thr Leu Asp Tyr Leu Tyr Asn Ser Val Pro  
     1                       5                       10                       15  
 Met Phe Gln Gln Val Gly Ser Ser Ala Tyr Lys Glu Gly Leu Glu Asn  
     20                       25                       30  
 Thr Tyr Ala Leu Asp Glu Tyr Leu Gly His Pro His Thr Ala Phe Gln  
     35                       40                       45  
 Ser Ile His Ile Ala Gly Thr Asn Gly Lys Gly Ser Cys Ser His Thr  
     50                       55                       60  
 Leu Ala Ala Ile Leu Gln Ser Ala Gly Tyr Arg Val Gly Leu Tyr Thr  
     65                       70                       75                       80  
 Ser Pro His Leu Val Asp Phe Arg Glu Arg Ile Arg Ile Asn Gly Glu  
     85                       90                       95  
 Pro Ile Pro Gln Glu Tyr Val Ile Arg Phe Val Glu Asp His Arg Leu  
     100                       105                       110  
 Phe Phe Glu Pro Leu His Pro Ser Phe Phe Glu Leu Thr Thr Ala Met  
     115                       120                       125  
 Ala Phe Arg Tyr Phe Ala Asp Gln His Ile Asp Val Ala Val Ile Glu  
     130                       135                       140  
 Val Gly Leu Gly Gly Arg Leu Asp Cys Thr Asn Ile Ile Arg Pro Asp  
     145                       150                       155                       160  
 Leu Ser Ile Ile Thr Asn Ile Ser Phe Asp His Met Gln Phe Leu Gly  
     165                       170                       175  
 Asn Thr Leu Ala Gln Ile Ala Thr Glu Lys Ala Gly Ile Ile Lys Arg  
     180                       185                       190  
 Gly Ile Pro Val Val Gly Glu Thr Thr Glu Glu Thr Lys Pro Val  
     195                       200                       205  
 Phe Tyr Arg Lys Ala Gln Glu Met Glu Ala Pro Val Thr Phe Ala Glu  
     210                       215                       220  
 Glu Glu Gln Arg Leu Lys Gly Ala Thr Lys Phe Lys Thr Arg Ala Asp  
     225                       230                       235                       240  
 Arg Lys Pro Gly Gln Tyr Thr Asp His Gln Pro Asn Thr Ala Ala Glu  
     245                       250                       255  
 Lys Asp Thr Glu Tyr Ile Thr Gly Trp Ile Tyr Glu Asn Asp Val Tyr  
     260                       265                       270

Pro Gly Leu Glu Gly Val Leu Gly Gly Ser Tyr Gln Leu Lys Asn Thr  
 275 280 285  
 Asn Thr Leu Leu Ser Ala Leu Pro Val Leu Lys Ser Leu Gly Tyr Lys  
 290 295 300  
 Ile Glu Asp His Asp Val Arg Asn Gly Phe Leu Gln Val Asp Lys Met  
 305 310 315 320  
 Thr Gly Leu Gln Gly Arg Trp Gln Lys Leu Ser Asp Ser Pro Thr Val  
 325 330 335  
 Ile Cys Asp Thr Gly His Asn Val Ala Gly Ile Ser Tyr Ile Val Glu  
 340 345 350  
 Gln Leu Lys Gln Met Lys Tyr Asn Cys Leu His Met Val Ile Gly Met  
 355 360 365  
 Val Asn Asp Lys Asp Val Ser Gly Ile Leu Ser Ile Leu Pro Glu Asn  
 370 375 380  
 Ala Val Tyr Tyr Phe Thr Lys Ala Ser Val Lys Arg Ala Leu Pro Glu  
 385 390 395 400  
 Ala Gln Leu Gln Gln Ile Gly Ala Ser Ala Gly Leu Gln Gly Lys Ala  
 405 410 415  
 Tyr Pro Asp Val Gln Ser Ala Val Lys Ala Ala Gln Glu Lys Ser Leu  
 420 425 430  
 Pro Glu Asp Leu Ile Phe Val Gly Gly Ser Ser Phe Ile Val Ala Asp  
 435 440 445  
 Leu Leu Ser Cys Arg Asp Ala Leu Asp Leu Asp  
 450 455

&lt;210&gt; 6820

&lt;211&gt; 88

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6820

Asn Thr Ser Leu Arg Asn Lys Met Ile Ile Ala Ser Gly Glu Gln Ala  
 1 5 10 15  
 Ser Gln Phe Val His His Ser Phe Leu Ile His Ser Ser Leu Leu Ile  
 20 25 30  
 Gln Ile Leu Leu Arg Trp Phe Lys Gly Tyr Asn Cys Pro Thr Lys Ile  
 35 40 45  
 Ser Gly Lys Pro Leu Leu Ile Phe Tyr His Ile Asp Ser Ala His Lys  
 50 55 60  
 Gln Asp His Tyr Asn Val Trp Gln Thr Leu Pro Ser Leu Trp Leu Ala  
 65 70 75 80  
 Lys Arg Lys Ala Phe Arg Ile Val  
 85

&lt;210&gt; 6821

&lt;211&gt; 354

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6821

Thr Lys Tyr Gln Asn Ala Ile Asn Asn Met Ser Leu Val Asn Asn Phe  
 1 5 10 15  
 Thr Val Lys Lys Val Arg Ser Ser Asn Leu Glu Ser Leu Arg Leu Leu  
 20 25 30  
 Ser Met Phe Phe Val Leu Val Val His Ala Asp Phe Gln Ala Leu Gly  
 35 40 45  
 Met Pro Asp Arg Thr Glu Met Thr Ile Leu Pro Leu Phe Ser Val Phe  
 50 55 60  
 Arg Ile Ile Ile Glu Ala Phe Ala Ile Val Cys Val Asn Ser Phe Val

65	70	75	80
Leu	Leu	Ser	Gly
Trp	Phe	Gly	Ile
Asn	Phe	His	Ile
Cys	Ile	Lys	Ser
	95		
Asn	Leu	Leu	Phe
Gln	Cys	Ala	Phe
	100	105	110
Thr	Ile	Leu	Ile
Gly	Ile	Glu	Pro
	115	120	125
Cys	Leu	Met	Leu
Thr	Asn	Asn	Val
	130	135	140
Met	Phe	Ile	Met
Ala	Pro	Ile	Leu
Asn	Ala	Phe	Val
	145	150	155
Lys	Arg	Thr	Phe
	165	170	175
Ile	Tyr	Gly	Trp
	180	185	190
Ser	Ala	Phe	Ser
	195	200	205
Ile	Tyr	Gln	Pro
	210	215	220
Met	Tyr	Ile	Ser
	225	230	235
Cys	Tyr	Phe	Asp
	245	250	255
Ser	Pro	Leu	Val
	260	265	270
Arg	Phe	Ala	Phe
	275	280	285
Phe	Ala	Val	Tyr
	290	295	300
Pro	His	Ile	Gln
	305	310	315
Leu	Val	Ile	Thr
	325	330	335
Ile	Asp	Lys	Ile
	340	345	350
Ile	Ser		

&lt;210&gt; 6822

&lt;211&gt; 421

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6822

Met	Cys	Leu	Asn	Pro	Leu	Ser	Cys	Met	Lys	Lys	Gln	Leu	Thr	Ile	Ile
1								5	10	15					
Ile	Gly	Leu	Leu	Leu	Ser	Ser	Ser	Ile	Thr	Val	His	Ala	Gln	Val	Ala
								20	25	30					
Gln	Lys	Leu	Arg	Glu	Leu	Gly	Met	Glu	Asn	Ile	Arg	Thr	Ile	Glu	Thr
								35	40	45					
Gly	Gly	Thr	Thr	Val	Ala	Ala	Phe	Glu	Asp	Asn	Val	Tyr	Arg	Gly	Thr
								50	55	60					
Tyr	Arg	Gly	Val	Gly	Lys	Ala	Ile	Ile	Ala	Gly	Met	Glu	Gly	Met	Gly
								65	70	75					80
Asn	Gly	Asn	Leu	Glu	Leu	Val	Ala	Leu	Asp	Gly	Asn	Gly	Ile	Pro	Gln
								85	90	95					
Leu	Ser	Ile	Ser	Leu	Pro	Asp	Thr	Leu	Ile	Ala	Gly	Tyr	Lys	Ser	Gly
								100	105	110					
Gly	Ile	Ser	Leu	Lys	Glu	Val	Tyr	Glu	Arg	Met	Glu	Met	Ser	Tyr	Asp

115	120	125
Thr Asp Arg Pro Met Gly Leu	Leu Lys Gly Ser Ala	Gly Val Ile Asn
130	135	140
Arg Ser Ala Trp Lys Ala	Asp Ile Val Leu Tyr	Pro Glu Val Ser Leu
145	150	155
Glu Asn Ser Thr Phe Asp	Lys Leu Tyr Ser Tyr	Arg Val Asn Leu Ser
165	170	175
Pro Ala Val Glu Met Asp	Leu Trp Lys Gly Ala	Lys Ala Thr Ala Gln
180	185	190
Val Val Phe Pro Ile Ala	Thr Asn Met Lys Gly	Glu Tyr Lys Lys Ile
195	200	205
Arg Pro Gly Val Met Thr	Ile Ser Gln Glu Ile	Arg Phe Arg Asn Asn
210	215	220
Phe Leu Ala Arg Ile Val	Ala Gly Asn Phe	Thr Asp His Arg Ile Gly
225	230	235
Ala Gln Ala Glu Val Lys	Tyr Arg Thr Gly	Asn Gly Arg Val Glu Leu
245	250	255
Gly Ala Gln Ile Gly Thr	Thr Gly Tyr Ser Ala	Ile Thr Asp Asp Gly
260	265	270
Trp Tyr Ile Gly Thr Arg	Gln Arg Ile Asn Ala	Ala Val Lys Gly Ser
275	280	285
Leu Tyr Val Pro Gln Phe	Asn Thr Gln Leu Asp	Leu Gln Ala Gly Arg
290	295	300
Tyr Leu Tyr Gly Asp Tyr	Gly Leu Arg Gly Asp	Cys Thr Arg His Phe
305	310	315
Gly Glu Tyr Ala Val Gly	Val Tyr Ala Met	Tyr Val Glu Gly Glu Val
325	330	335
Asn Gly Gly Phe His Phe	Ala Ile Pro Leu Pro	Gly Lys Lys Trp Asn
340	345	350
Arg Asn His Ala Val Arg	Met Lys Pro Ala Glu	Phe Phe Ala Ala Glu
355	360	365
Tyr Ser Met Val Ser Trp	Gly Glu Tyr Ala Asp	Arg Lys Met Gly Tyr
370	375	380
Thr Tyr Gln Thr Arg Pro	Ala Glu Asn Arg	Ser Asn Gly Phe Phe Gln
385	390	395
Pro Glu Tyr Ile Arg His	Phe Leu Ile Lys	Ser Ile Glu Lys Glu Arg
405	410	415
Asn Lys Lys Gln Phe		
420		

&lt;210&gt; 6823

&lt;211&gt; 250

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6823

Arg Thr Tyr Asn Tyr Pro Phe His	Leu Arg Asn Met	Leu Lys Leu Lys	
1	5	10	15
Thr Val Ser Leu Leu Lys His	Arg Ser Asp Leu Ser	Ile Leu Pro Glu	
20	25	30	
Gly Lys Leu Leu Ile Asn Thr	Ile Asn Ala His	Ser Tyr Asn Thr Ala	
35	40	45	
Leu Lys Asp Ala Gly Phe Ala	Glu Ala Leu Leu	Lys Gly Gly Ala Leu	
50	55	60	
Ile Pro Asp Gly Ala Ser	Met Val Leu Ala Phe	Arg Trp Leu Arg Lys	
65	70	75	80
Glu Ser Ile Glu Arg Thr Ala	Gly Trp Asp Leu Phe	Glu Tyr Glu Met	
85	90	95	
Glu Arg Leu Asn Arg Lys	Gly Ile Cys Tyr	Phe Leu Gly Ser Ser	

100	105	110
Lys Asn Thr Leu Lys Leu Ile Lys Glu Lys Ala Lys	Thr Val Tyr Pro	
115	120	125
Asn Ile Arg Ile Glu Thr Tyr Ser Pro Pro Tyr Lys Pro	Glu Phe Thr	
130	135	140
Glu Glu Glu Asn Gln Met Met Ile Asp Ala Ile Asn Ala Val Lys Pro		
145	150	155
Asp Leu Leu Trp Ile Gly Met Thr Ala Pro Lys Gln Glu Lys Trp Ala		160
165	170	175
Tyr Thr His Leu Asp Ala Leu Glu Val Thr Gly His Ile Gly Thr Ile		
180	185	190
Gly Ala Val Phe Asp Phe Phe Ala Gly Thr Val Glu Arg Ala Pro Val		
195	200	205
Arg Trp Gln Glu His Gly Leu Glu Trp Leu Tyr Arg Leu Ile Lys Glu		
210	215	220
Pro Arg Arg Met Trp Arg Arg Tyr Ile Ile Gly Asn Ala Leu Phe Leu		
225	230	235
Trp Asn Ile Thr Lys Glu Lys Phe Ser Ile		240
245	250	

&lt;210&gt; 6824

&lt;211&gt; 270

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6824

Ile Lys Asn Asn Trp Asn Met Lys Thr Ile Lys Leu Gly Tyr Glu Gly		
1	5	10
Glu Glu Ala Leu Leu Leu Cys Arg Glu Leu Lys Arg Asn Gly Tyr Ser		15
20	25	30
Val Lys Glu Ser Arg Thr Phe Thr Gln Glu Met Lys Glu Ala Val Ile		
35	40	45
Asp Phe Gln Gln Lys Asn Lys Leu Asp Ala Asp Gly Ile Val Gly Tyr		
50	55	60
Arg Thr Trp Glu Val Leu Phe Phe Thr Gly His Pro Ile Thr Glu Arg		
65	70	75
Leu Thr Glu Glu Asp Phe Ile Leu Val Ala Arg Leu Leu Asp Val Glu		80
85	90	95
Val Ala Ala Leu Lys Ala Val Gln Gln Val Glu Thr Gly Gly Arg Gly		
100	105	110
Gly Phe Phe Ala Pro Gly Lys Pro Ala Ile Leu Phe Glu Gly His Ile		
115	120	125
Phe Trp Asn Gln Leu Lys Lys Arg Asn Ile Asn Pro Glu Ser His Val		
130	135	140
Lys Gly Asn Glu Asn Ile Leu Tyr Pro Lys Trp Glu Lys Gly His Tyr		
145	150	155
Lys Gly Gly Met Gly Glu Tyr Asp Arg Leu Glu Gln Ala Arg Lys Ile		160
165	170	175
Asn His Glu Ala Ala Asp Ala Ser Ala Ser Trp Gly Met Phe Gln Ile		
180	185	190
Met Gly Phe Asn Tyr Ala Ala Cys Gly Glu Lys Ser Val Asp Ser Phe		
195	200	205
Val Lys Ala Met Cys Met Ser Glu Cys Arg Gln Leu Val Leu Ser Ala		
210	215	220
Arg Phe Ile Lys Gln Ser Gly Met Leu Ser Ala Leu Gln Ala Lys Asp		
225	230	235
Trp Ala Glu Phe Ala Lys Arg Tyr Asn Gly Pro Ala Tyr Glu Gln Asn		240
245	250	255
Gln Tyr Asp Lys Lys Leu Ala Ala Tyr Gln Lys Phe Ser		

260

265

270

&lt;210&gt; 6825

&lt;211&gt; 64

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6825

Arg Arg Ile Leu Val Leu Val Glu Glu Gln Asn Pro Leu Ser Pro Arg			
1	5	10	15
Gly Arg Gly Ile Ala Val Thr Asp Ala Pro Phe Tyr Gly Asn Gly Thr			
20	25	30	
Ser Glu Arg Leu Phe Asn Ile Gly Leu Cys Leu Pro Ser Gly Pro Thr			
35	40	45	
Leu Thr Asp Glu Asp Ile Arg Arg Val Val Asp Thr Ile Arg Lys Met			
50	55	60	

&lt;210&gt; 6826

&lt;211&gt; 251

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6826

Asn Ala Asp Asn Tyr Met Ile Asp Lys Ser Glu Met Ile Phe Gly Val			
1	5	10	15
Arg Ala Val Ile Glu Ala Ile Gln Ala Gly Lys Glu Ile Asp Lys Ile			
20	25	30	
Leu Val Lys Lys Asp Ile Gln Ser Asp Leu Ser Lys Glu Leu Phe Thr			
35	40	45	
Ala Leu Lys Gly Thr Leu Ile Pro Val Gln Arg Val Pro Val Glu Arg			
50	55	60	
Ile Asn Arg Ile Thr Arg Lys Asn His Gln Gly Val Val Ala Phe Ile			
65	70	75	80
Ser Ser Val Thr Tyr Gln Lys Thr Glu Asp Leu Val Pro Phe Leu Phe			
85	90	95	
Glu Glu Gly Lys Asn Pro Phe Phe Val Met Leu Asp Gly Ile Thr Asp			
100	105	110	
Val Arg Asn Phe Gly Ala Ile Ala Arg Thr Cys Glu Cys Ala Gly Val			
115	120	125	
Asp Ala Val Ile Ile Pro Ala Lys Gly Ser Val Thr Val Asn Ala Asp			
130	135	140	
Ala Met Lys Thr Ser Ala Gly Ala Leu His Thr Leu Pro Val Cys Arg			
145	150	155	160
Glu Gln Asn Leu Lys Thr Thr Leu Gln Tyr Leu Lys Asp Ser Gly Phe			
165	170	175	
Arg Ile Val Ala Ala Thr Glu Lys Gly Asp Tyr Asp Tyr Thr Lys Ala			
180	185	190	
Asp Tyr Thr Gly Pro Met Cys Ile Ile Met Gly Ala Glu Asp Thr Gly			
195	200	205	
Val Ser Tyr Asp Asn Leu Ala Leu Cys Asp Glu Trp Val Lys Ile Pro			
210	215	220	
Met Leu Gly Ser Ile Glu Ser Leu Asn Val Ser Val Ala Ala Gly Ile			
225	230	235	240
Leu Ile Tyr Glu Gly Val Lys Gln Arg Thr Asn			
245	250		

&lt;210&gt; 6827

&lt;211&gt; 276

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6827

Asn	Leu	Lys	Asn	His	Ile	Met	Ala	Gln	Leu	Ser	Ser	Val	Ile	Gly	Ser
1					5				10				15		
Ile	Leu	Arg	Asp	Ile	Val	Ser	Ala	Gln	His	Glu	Ala	Asn	Leu	Tyr	Ser
					20				25				30		
Leu	Ser	Leu	Gly	Asp	Ser	Tyr	Gly	Lys	Asp	Gly	Lys	Ala	Lys	Asp	Phe
					35			40			45				
Gln	Leu	Pro	Asn	Val	Met	Val	Ser	Asp	Met	Glu	Leu	Asp	Leu	Lys	Tyr
					50			55			60				
Gly	Val	Lys	Ser	Ala	Ser	Glu	Ser	Gln	Gln	Phe	Asn	Ile	Lys	Tyr	
					65			70			75			80	
Asp	Lys	Phe	Arg	Gln	Phe	Leu	Lys	Glu	Leu	Cys	Glu	Gln	Val	Ala	Arg
					85			90					95		
Val	Ala	Ile	Ser	Ser	Ala	Val	Thr	Thr	Val	Met	Thr	Ser	Asp	Ile	Glu
					100			105				110			
Arg	Asn	Glu	Gly	Glu	Lys	His	Phe	Phe	Glu	Arg	Leu	Lys	Glu	Asn	
					115			120			125				
Lys	Leu	His	Gln	Glu	Phe	Cys	Thr	Phe	Leu	Ser	Arg	Asn	Met	Arg	Asn
					130			135			140				
Ser	Phe	Arg	Asn	Asn	Leu	Tyr	Asp	Ala	Val	Asp	Ser	Ser	Asn	Gly	Ser
					145			150			155			160	
Val	Asn	Asn	Asp	Val	Val	Ile	Ser	Arg	Leu	Thr	Asp	Val	Val	Arg	Lys
					165			170			175				
Lys	Phe	Leu	Tyr	Asp	Thr	Asp	Leu	Asp	Asp	Leu	Phe	Ala	Gly	Glu	Asp
					180			185			190				
Gly	Glu	Lys	Leu	Arg	Asp	Thr	Ala	Glu	Lys	Asn	Ile	Ile	Lys	Ala	Met
					195			200			205				
Glu	Ala	Ile	Val	Lys	Lys	Leu	Ser	Val	Asp	Ala	Asn	Phe	Lys	Ser	Leu
					210			215			220				
His	Ser	Phe	Pro	Gln	Leu	Asp	Val	Ala	Ile	Thr	Ala	Asp	Glu	Leu	Met
					225			230			235			240	
Asn	Met	Pro	Glu	Glu	Ala	Ile	His	Ser	Phe	Lys	Ile	Lys	Phe	Ser	Pro
					245			250			255				
Arg	Asn	Tyr	Ser	Val	Ser	Gln	Thr	Asp	Asp	Asp	Ser	Leu	Leu	Glu	Asp
					260			265			270				
Phe	Val	Met	Arg												
			275												

&lt;210&gt; 6828

&lt;211&gt; 178

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6828

Asn	Gln	Lys	Asn	Gly	Leu	Thr	Thr	Met	Lys	Leu	Ser	Lys	Phe	Leu	Ser
1					5			10				15			
Ser	Arg	Thr	Gly	Lys	Arg	Phe	Tyr	Asn	Leu	Cys	Tyr	Cys	Trp	Gly	Ala
					20			25			30				
Cys	Leu	Val	Ile	Leu	Gly	Ala	Val	Phe	Lys	Ile	Ala	His	Met	Pro	Tyr
					35			40			45				
Asp	Asn	Leu	Phe	Leu	Met	Ile	Gly	Leu	Phe	Thr	Glu	Val	Phe	Ile	Phe
					50			55			60				
Phe	Ile	Ser	Gly	Phe	Asp	Glu	Pro	Ala	Arg	Glu	Tyr	Lys	Trp	Glu	Arg
					65			70			75			80	
Val	Phe	Pro	Leu	Leu	Asn	Asp	Lys	Asn	Ala	Asn	Ile	Asn	Pro	His	Thr
					85			90			95				
Gly	Val	Ser	Asp	Thr	Leu	Met	Thr	Glu	Lys	Tyr	Ile	Gln	Gln	Leu	Lys

100	105	110	
Arg Leu Glu Asn Asn Val Cys Lys	Leu Asn Glu Thr Tyr	Glu Ala Gln	
115	120	125	
Ile Lys Gly Met Thr Glu His Ala Lys Ser	Leu Asn Glu Met Asn Ser		
130	135	140	
Glu Glu Leu Lys Lys Glu Thr Glu Lys Met	Ala Ala Tyr Ile Glu Leu		
145	150	155	160
Leu Asn Lys Gln Tyr Ser Gln Met Leu Asn Ala Met Asn Val Lys	Thr		
165	170	175	
Gly Lys			

&lt;210&gt; 6829

&lt;211&gt; 63

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6829

Leu Trp Lys Lys Asn Asp Lys Phe Lys Ser Pro Asn Glu Leu Leu Lys			
1	5	10	15
Glu Leu Ser Gly Gln Val Phe Ala Leu Val Arg Glu Leu Pro Lys Pro			
20	25	30	
Leu Ser Arg Glu Glu Met Arg Glu Leu Lys Arg Leu Cys Arg Phe Leu			
35	40	45	
Asn Asn Thr Val Lys Asp Gln Glu Arg Lys Gln Glu Val Arg Lys			
50	55	60	

&lt;210&gt; 6830

&lt;211&gt; 80

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6830

Lys Thr Arg Lys Arg Leu Arg Arg Phe Pro Arg Asn Ile Gln Val Phe			
1	5	10	15
Ser Ser Lys Leu Leu Ser Leu Phe Gly Lys Gly Leu Arg Val Cys His			
20	25	30	
Thr Ile Ile Gly Trp Ser Gly Val Phe Glu Gly Gln Lys Ser Lys Gly			
35	40	45	
Lys Leu Tyr Glu Ser Val Ser Gly Lys Pro Arg Gly Val Met Ile Tyr			
50	55	60	
Ile Ser Pro Ser Leu Ser Ile Ile Phe Lys Leu Tyr Ser Pro His Glu			
65	70	75	80

&lt;210&gt; 6831

&lt;211&gt; 201

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6831

Arg Val Gly Lys Asn Asn Lys Lys Tyr Ile Met Asp Glu Lys Leu Leu			
1	5	10	15
Pro Tyr Phe Glu Asn Val Asn Asp Gly Gly Glu Gln Gly Lys Tyr Leu			
20	25	30	
Lys Glu Phe Gly Asn Glu Glu Thr Gln Gly Gly Ile Cys Leu His Leu			
35	40	45	
Ser Ile Thr Trp Leu Tyr Leu Trp His Asn Ser Thr Asn Lys Ala Pro			
50	55	60	
Asn Thr Ile Trp Gln Glu Met Lys Thr Pro Thr Leu Ile Gln Gln Ile			

65	70	75	80
Ala Ser Asn Gln Arg Ser Tyr Gln Gln Tyr Tyr Pro Asn Ile Ala Asp			
85		90	95
Asn Val Ser Leu Ala Thr Arg Asn Ser Leu His Val Thr Gly Thr Asn			
100		105	110
Ala Gly Glu Ile Tyr Gln Ile Thr Thr Asn Ala Leu Val Lys Ser Asn			
115		120	125
Met Leu Leu Tyr Val Ile Asn Leu Glu Lys Asp His Lys Pro Val Gly			
130		135	140
Arg His Ala Ile Ala Ala Ile Ala Thr Arg Gly Arg Phe Tyr Leu Tyr			
145		150	155
Asp Pro Asn Val Gly Val Met Ser Val Pro Met Pro Asn Met Lys Glu			
165		170	175
Leu Ile Glu Lys Ile Pro Tyr Ile Tyr Gly Lys His Ser Leu Asn Ile			
180		185	190
Ser Gln Thr Ser Val Tyr Asn Ile Ser			
195		200	

<210> 6832

<211> 114

<212> PRT

<213> B.fragilis

<400> 6832

Lys Ser Met Asn Pro Ile Leu Asn Lys Met Gly Ala Asn Ala Asn Glu			
1	5	10	15
Gln Lys Lys Leu Leu Met Glu Cys Val Ser Met Leu Glu Lys Tyr Val			
20	25	30	
Asn Arg Phe Pro Ala Glu Lys Gly Cys Ala Ser Phe Ser Gly Glu Asp			
35	40	45	
Met Lys Leu Trp Lys Glu Val Tyr Phe Pro Lys Leu Val Gln Thr Asp			
50	55	60	
Ile Leu Leu Asp Gly Lys Phe Phe Cys Gly Thr Ser Ser Gly Asn Ser			
65	70	75	80
Gly Ile Gly Thr Asp Gly Tyr Phe Thr Gly Tyr Glu Phe Phe Gln Phe			
85	90	95	
Ile Tyr Arg Ala Tyr Lys Ala Leu Tyr Glu Leu Glu Lys Ala Ser Gln			
100	105	110	
Met Arg			

<210> 6833

<211> 323

<212> PRT

<213> B.fragilis

<400> 6833

Tyr Ser Met Lys Lys Arg Glu Phe Lys Ile Ser Phe Phe Leu His Val			
1	5	10	15
Trp Glu Arg Lys Ala Glu Glu Ile Ser Leu Glu Glu Phe His Asn Asp			
20	25	30	
Leu Arg Gly Ala Arg Trp Lys Val Leu Ala Glu Ser Tyr Arg Arg Trp			
35	40	45	
Met Arg Thr Gly Met Thr Glu Glu Gly Lys Arg Leu Lys Gly Ala Leu			
50	55	60	
Asn Ala Val Val Val Ala Gly Lys Cys Arg Gly Gly His Ala Ala Asn			
65	70	75	80
Gln Val Thr Glu Leu Asn Gly Leu Ala Leu Phe Asp Phe Asp His Cys			
85	90	95	

Leu Glu Met Leu Ala Gly Met Lys Glu Lys Ala Gly Ala Leu Pro Tyr  
 100 105 110  
 Val Val Gly Ala Phe Val Ser Ile Ser Gly Glu Gly Leu Lys Leu Ile  
 115 120 125  
 Val Arg Ile Asp Ala Glu Asn Ala Gly Gln Tyr Ala Val Ala Tyr Pro  
 130 135 140  
 Val Val Ala Arg Glu Leu Glu Arg Val Leu Gly His Pro Cys Asp Met  
 145 150 155 160  
 Ser Cys Arg Asp Leu Gly Arg Ala Cys Tyr Ala Ser Tyr Asp Pro Glu  
 165 170 175  
 Ala Tyr Tyr Asn Pro Gly Ala Gly Val Phe Pro Trp Arg Glu Gln Val  
 180 185 190  
 Asp Gly Leu Leu Gln Ala Glu Gly Glu Cys Ser Ala Gln Ser Val Gly  
 195 200 205  
 Lys Ala Cys Pro Ala Gly Val Ala Ser Glu Ala Gly Asp Gly Phe Met  
 210 215 220  
 Gln Val Phe Leu Asn Asp Phe Asp Ala Arg Asn Pro Phe Val Ala Gly  
 225 230 235 240  
 Gly Arg His Ala Phe Val Leu Lys Leu Gly Arg Val Ala Arg Tyr Lys  
 245 250 255  
 Gly Phe Ser Pro Glu Glu Met Arg Leu Leu Gln Lys Ala Val Val Glu  
 260 265 270  
 Lys Tyr Ala Gln Ala Asp Phe Gly Ser Gly Glu Ile Glu Lys Thr Leu  
 275 280 285  
 Ser Ser Gly Tyr Gln Tyr Val Ser Val Arg Arg Ala Asp Ala Val Met  
 290 295 300  
 Ala Ser Gln Gly Pro Lys Val Gln Gly Pro Leu Tyr Ala Leu Arg Gly  
 305 310 315 320  
 Gly Gly Glu

<210> 6834  
 <211> 81  
 <212> PRT  
 <213> B.fragilis

<400> 6834  
 Ile Lys Met Lys Arg Ile Thr Asp Arg Thr Asn Phe Ser Val Ile Asn  
 1 5 10 15  
 Thr Val Val Asn Tyr Ser Glu Ala Pro Tyr Ala Val Cys Pro Gln Cys  
 20 25 30  
 Asn Ile Arg Thr Ala Cys Arg Arg Phe Pro Ser Ser Ile His Ser Val  
 35 40 45  
 Arg His Leu Tyr Pro Asp Arg Ser Thr Thr Gln Lys His Lys Tyr Asp  
 50 55 60  
 Lys Asp Lys Ile Gln Lys Lys Ala Val Met Ile Pro Ile Phe Thr His  
 65 70 75 80  
 Ile

<210> 6835  
 <211> 449  
 <212> PRT  
 <213> B.fragilis

<400> 6835  
 Lys Val Ser Lys Lys Arg Glu Thr Lys Asn Ser Phe Asn Ile Phe Leu  
 1 5 10 15  
 Met Thr Lys Met Ile Met Lys Lys Ser Asp Leu Phe Lys Ile Gly Val

20	25	30
Leu Leu Met Ala Thr Thr Leu Gly	Thr Thr Gly Cys Ser Phe Gly Glu	
35	40	45
Asp Glu Lys Lys Pro Glu Ile Val Val Asp Pro Ala Glu Lys Thr Ile		
50	55	60
Glu Tyr Tyr Ile Ala Gly Lys Val Thr Glu Gly Thr Thr Ala Leu Ser		
65	70	75
Gly Val Glu Val Lys Ala Gly Glu Val Thr Ala Thr Thr Asp Ala Glu		
85	90	95
Gly Ala Tyr Lys Leu Thr Val Asp Ser Lys Lys Val Tyr Thr Val Thr		
100	105	110
Phe Ser Lys Glu Gly Tyr Met Ser Ile Asp Asn Ala Thr Ala Thr Ile		
115	120	125
Ala Asp Asn Ala Ala Asn Arg Ser Met Val Ser Leu Ser Val Lys Leu		
130	135	140
Ser Lys Lys Ala Pro Glu Lys Glu Val Lys Ala Asp Ala Glu Glu Glu		
145	150	155
Val Val Val Thr Asp Lys Gly Asp Ser Asn Ile Ser Gln Ala Glu Ala		
165	170	175
Ala Val Ile Ile Pro Pro Lys Ala Ile Glu Thr Thr Thr Thr Val Ser		
180	185	190
Val Thr Pro Tyr Glu Glu Pro Ala Ala Val Thr Thr Thr Val Thr Pro		
195	200	205
Gly Asn Asn Val Glu Thr Pro Val Ala Ile Ala Asn Ile Glu Val Glu		
210	215	220
Thr Ala Gln Glu Val Thr Leu Ala Lys Pro Val Thr Leu Ala Ile Ile		
225	230	235
Asn Lys Ala Ser Glu His Thr Thr Phe Glu Asn Val Glu Val Tyr Asn		
245	250	255
Gln Lys Thr Thr Arg Ala Gly Glu Asn Trp Asn Lys Val Ala Asp		
260	265	270
Ala Ile Tyr Asp Ser Glu Thr Asn Ser Tyr Lys Phe Thr Leu Pro Ala		
275	280	285
Gly Ala Ser Leu Ser Gly Lys Tyr Ser Met Arg Val Lys Ser Ser Lys		
290	295	300
Thr Thr Gly Lys Glu Arg Ile Gly Glu Thr Asn Lys Glu Glu Lys Lys		
305	310	315
Ser Asn Glu Gly Asn Met Thr Ala Ile Pro Glu Tyr Lys Ile Asn Phe		
325	330	335
Glu Ala Thr Ala Gly Trp Glu Tyr Thr Val Ser Pro Glu Lys Ala Leu		
340	345	350
Met Asn Ala Gly Val Asp Ala Ala Asp Ala Gln Gly Met Gly Thr Thr		
355	360	365
Ile Asn Ser Ala Ile Glu Ala Gln Glu Gly Thr Thr Gly Thr Tyr Lys		
370	375	380
Val Ala His Glu Leu Ile Ala Gly Ile Ser Gly Asn His Ile Leu Tyr		
385	390	395
Tyr Leu Asn Gln Ala Lys Tyr Cys Glu Lys Thr Tyr Thr Phe Lys Ile		
405	410	415
Ser Gly Gly Arg Thr Val Thr Ile Thr Leu Lys Phe Tyr Thr Gly Met		
420	425	430
Gln Ile Thr Tyr Thr Asn Val Glu Ala Ser Gln His Ser Gly Gly Lys		
435	440	445
Ile		

<210> 6836  
<211> 403  
<212> PRT

<213> B.*fragilis*

<220>

<221> UNSURE

<222> (84)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 6836

Val Asn Arg Lys Ile Ile Met Leu Asn Gly Lys Lys Ile Ile Leu Gly  
 1 5 10 15  
 Ile Thr Gly Ser Ile Ala Ala Tyr Lys Ala Cys Tyr Ile Ile Arg Gly  
 20 25 30  
 Leu Ile Lys Gln Gly Ala Glu Val Gln Val Val Ile Thr Pro Ala Gly  
 35 40 45  
 Lys Glu Phe Ile Thr Pro Ile Thr Leu Ser Ala Leu Thr Gly Lys Pro  
 50 55 60  
 Val Ile Ser Glu Phe Phe Ala Gln Arg Asp Gly Thr Trp Asn Ser His  
 65 70 75 80  
 Val Asp Leu Xaa Leu Trp Ala Asp Ala Met Leu Ile Ala Pro Ala Thr  
 85 90 95  
 Ala Ser Thr Ile Gly Lys Met Ala Asn Gly Ile Ala Asp Asn Met Leu  
 100 105 110  
 Ile Thr Thr Tyr Leu Ser Ala Lys Ala Pro Val Phe Val Ala Pro Ala  
 115 120 125  
 Met Asp Leu Asp Met Phe Ala His Pro Ser Thr Gln Lys Asn Leu Asp  
 130 135 140  
 Thr Leu Arg Ser Tyr Gly Asn His Ile Ile Glu Pro Ala Ser Gly Glu  
 145 150 155 160  
 Leu Ala Ser His Leu Val Gly Lys Gly Arg Met Glu Glu Pro Glu Asn  
 165 170 175  
 Ile Ile Arg Val Leu Asp Glu Phe Phe Ser Ser Thr Gly Glu Leu Ala  
 180 185 190  
 Gly Lys Lys Val Leu Ile Thr Ala Gly Pro Thr Tyr Glu Lys Ile Asp  
 195 200 205  
 Pro Val Arg Phe Ile Gly Asn Tyr Ser Ser Gly Lys Met Gly Phe Ala  
 210 215 220  
 Leu Ala Glu Glu Cys Ala Arg Arg Gly Ala Asp Val Val Leu Ile Ala  
 225 230 235 240  
 Gly Pro Val Gln Gln Lys Thr Tyr His Ser His Ile Thr Arg Ile Asp  
 245 250 255  
 Val Glu Ser Ala Gln Asp Met Tyr Glu Ala Ala Met Ala Gln Tyr Pro  
 260 265 270  
 Leu Val Asp Ala Gly Ile Leu Cys Ala Ala Val Ala Asp Phe Thr Pro  
 275 280 285  
 Asp Ala Val Ala Asp Lys Lys Ile Lys Arg Glu Gly Asp Glu Leu Leu  
 290 295 300  
 Leu His Leu Lys Pro Thr His Asp Ile Ala Ala Ala Leu Gly Lys Ile  
 305 310 315 320  
 Lys Thr Pro Gly Gln Lys Leu Ile Gly Phe Ala Leu Glu Thr Asn Asp  
 325 330 335  
 Glu Gln Arg Asn Ala Glu Gly Lys Leu Ile Arg Lys Asn Phe Asp Phe  
 340 345 350  
 Ile Val Leu Asn Ser Leu Asn Asp Ala Gly Ala Gly Phe Arg Tyr Asp  
 355 360 365  
 Thr Asn Lys Ile Ser Ile Leu Ser Cys Arg Gly Arg Thr Asp Tyr Pro  
 370 375 380  
 Leu Lys Ser Lys Thr Glu Val Ala Arg Asp Ile Ile Asp Arg Met Ile  
 385 390 395 400  
 Lys Glu Met

<210> 6837  
<211> 455  
<212> PRT  
<213> B.fragilis

<400> 6837  
Ser Asp Ala Glu Cys His Glu Cys Lys Asn Arg Glu Ile Arg Arg Arg  
1 5 10 15  
Asp Met Ala Lys Tyr Thr Leu Pro Pro Arg Gln Lys Met Ile Asn Leu  
20 25 30  
Leu Tyr Val Val Leu Ile Ala Met Leu Ala Ile Asn Ile Ser Ser Asp  
35 40 45  
Val Leu Glu Gly Tyr Gly Gln Met Asn Asn Asp Tyr Leu Pro Gln Ile  
50 55 60  
Lys Lys Leu Glu Glu Tyr Asn Arg Thr Leu Leu Glu Arg Ile Asn Ser  
65 70 75 80  
Arg Asn Asp Lys Ala Ala Leu Ser Ala Gln Asn Ile Asp Ala Ala Ala  
85 90 95  
Gly Lys Leu Met Asp Thr Leu Glu Glu Leu Lys Glu Asp Ile Ala Arg  
100 105 110  
Lys Ala Asp Lys Glu Lys Tyr Glu Ala Gly Lys Leu Lys Ala Lys Asp  
115 120 125  
Asp Leu Asn Ala Val Pro Glu Val Phe Leu Ser Val Thr Gly Gly Lys  
130 135 140  
Gly Lys Ala Leu Arg Leu Ser Leu Asp Thr Phe Lys Glu Asp Ala Leu  
145 150 155 160  
Ser Leu Ile Lys Asn Asp Ala His Arg Gln Leu Val Gly Thr Tyr Leu  
165 170 175  
Asn Thr Glu Ser Pro Gly Thr Gly Ile Ser Trp Glu Lys Glu Thr Phe  
180 185 190  
Ser Tyr Leu Pro Ala Ile Gly Gly Val Thr Phe Ile Asn Lys Met Gln  
195 200 205  
Glu Glu Val Leu Leu Cys Val Asn Glu Val Tyr Arg Ser Leu Leu Tyr  
210 215 220  
Glu Glu Ala Glu Asp Gly Lys Gly Ala Phe Val Phe Ile Asn Glu  
225 230 235 240  
Asp Gln Met Ile Val Asn Lys Asp Gly Thr Val Asp Leu Pro Val Val  
245 250 255  
Gln Ile Thr Pro Ala Leu Thr Ser Ile Leu Tyr Thr Asp Tyr Glu Asn  
260 265 270  
Pro Leu Asn Ile Leu Thr Ala Gly Ile Pro Phe Asn Glu Val Thr Phe  
275 280 285  
Arg Met Thr Asn Gly Lys Ile Leu Lys Arg Gly Asn His Cys Ile Ala  
290 295 300  
Val Pro Asp Glu Lys Ala Gln Thr Ala Thr Val Thr Ala Thr Gln Ile  
305 310 315 320  
Lys Asn Gly Val Ala Arg Gln Leu Ala Glu Tyr Arg Tyr Thr Val Lys  
325 330 335  
Ala Leu Pro Asp Pro Thr Pro Tyr Ile Leu Cys Thr Asp Glu Asn Gly  
340 345 350  
Arg Thr Val Gln Tyr Arg Gly Asn Val Pro Ile Asn Lys Arg Leu Val  
355 360 365  
Ser Asn Met Thr Gln Leu Gly Ala Ser Ile Ser Asp Gly Pro Lys Ala  
370 375 380  
Asn Tyr Glu Ile Ser Ser Phe Glu Met Val Leu Ile Lys Gly Ser Ser  
385 390 395 400  
Lys Ala Val Thr Ser Ile Pro Asn Thr Gly Asn Lys Phe Ser Ala Arg

	405	410	415												
Gln	Met	Glu	Leu	Ile	Arg	Gln	Leu	Glu	Lys	Gly	Asp	Lys	Phe	Tyr	Ile
		420				425							430		
Thr	Ser	Ile	Val	Val	Thr	Gly	Pro	Gly	Asn	Lys	Lys	Lys	Gln	Ile	Ala
		435				440							445		
Ser	Ile	Asn	Val	Val	Leu	Ile									
							450								
								455							

&lt;210&gt; 6838

&lt;211&gt; 418

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6838

Cys	Ile	Asn	Glu	Asp	Arg	Met	Met	Asn	Gly	Ile	Phe	Glu	Lys	Leu	Tyr	
1						5				10					15	
Asp	Met	Thr	Ala	Phe	Ser	Asn	Ile	Val	Ala	Glu	Pro	Gln	Phe	Leu	Val	
							20			25					30	
Met	Tyr	Val	Ile	Ala	Phe	Val	Leu	Leu	Tyr	Leu	Gly	Ile	Lys	Lys	Gln	
							35			40					45	
Tyr	Glu	Pro	Leu	Leu	Leu	Val	Pro	Ile	Ala	Phe	Gly	Val	Leu	Leu	Ala	
							50			55					60	
Asn	Phe	Pro	Gly	Gly	Gly	Met	Gly	Val	Ile	Gln	Ala	Asp	Glu	Asn	Gly	
						65			70			75			80	
Met	Ile	Leu	Val	Asn	Gly	Val	Met	Lys	Asn	Ile	Trp	Glu	Met	Pro	Leu	
							85			90					95	
His	Asp	Ile	Ala	His	Glu	Leu	Gly	Leu	Met	Asn	Phe	Val	Tyr	Tyr	Met	
							100			105					110	
Leu	Ile	Lys	Thr	Gly	Phe	Leu	Pro	Pro	Ile	Ile	Phe	Met	Gly	Val	Gly	
							115			120					125	
Ala	Leu	Thr	Asp	Phe	Gly	Pro	Met	Leu	Arg	Asn	Leu	Arg	Leu	Ser	Ile	
							130			135					140	
Phe	Gly	Ala	Ala	Ala	Gln	Leu	Gly	Ile	Phe	Thr	Val	Leu	Leu	Val	Ala	
						145			150			155			160	
Ile	Leu	Met	Gly	Phe	Thr	Pro	Ser	Glu	Ala	Ala	Ser	Leu	Gly	Ile	Ile	
							165			170					175	
Gly	Gly	Ala	Asp	Gly	Pro	Thr	Ala	Ile	Phe	Thr	Thr	Ile	Lys	Leu	Ala	
							180			185					190	
Pro	His	Leu	Leu	Gly	Pro	Ile	Ala	Ile	Ala	Ala	Tyr	Ser	Tyr	Met	Ala	
							195			200					205	
Leu	Val	Pro	Val	Ile	Ile	Pro	Leu	Val	Val	Arg	Leu	Leu	Cys	Thr	Lys	
							210			215					220	
Lys	Glu	Leu	Ser	Ile	Asn	Met	Lys	Glu	Gln	Glu	Lys	Lys	Tyr	Pro	Ser	
						225			230			235			240	
Lys	Thr	Glu	Ile	Lys	Asn	Leu	Arg	Val	Leu	Lys	Ile	Ile	Phe	Pro	Ile	
							245			250					255	
Val	Val	Thr	Thr	Val	Val	Ala	Leu	Phe	Val	Pro	Ser	Ala	Val	Pro	Leu	
							260			265					270	
Ile	Gly	Met	Leu	Met	Phe	Gly	Asn	Leu	Val	Lys	Ile	Gly	Ala	Asn		
							275			280					285	
Thr	Phe	Arg	Leu	Phe	Asp	Ala	Ala	Ser	Asn	Ser	Ile	Met	Asn	Ala	Ala	
							290			295					300	
Thr	Ile	Phe	Leu	Gly	Leu	Ser	Val	Gly	Ala	Thr	Met	Thr	Ser	Glu	Ala	
							305			310			315			320
Phe	Leu	Asn	Trp	Thr	Thr	Ile	Gly	Ile	Val	Val	Gly	Gly	Phe	Leu	Ala	
							325			330					335	
Phe	Ala	Leu	Ser	Ile	Ala	Gly	Gly	Ile	Phe	Phe	Val	Lys	Leu	Val	Asn	
							340			345					350	
Leu	Phe	Thr	Lys	Lys	Ile	Asn	Pro	Leu	Ile	Gly	Ala	Thr	Gly	Leu		

355	360	365
Ser Ala Val Pro Met Ala Ser Arg Val Ala Asn Asp Ile Ala Leu Lys		
370	375	380
Tyr Asp Pro Lys Asn His Val Leu Gln Tyr Cys Met Ala Ser Asn Ile		
385	390	395
Ser Gly Val Ile Gly Ser Ala Val Ala Ala Gly Val Leu Ile Ser Phe		
405	410	415
Leu Ser		

&lt;210&gt; 6839

&lt;211&gt; 398

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6839

Glu Val Cys Glu Thr Asn Lys Arg Ile Ile Met Asn Leu Asp Leu Asp			
1	5	10	15
Phe Ile Leu Leu Asn Leu Leu Leu Tyr Thr Phe Trp Lys Ala Gly			
20	25	30	
Arg Asn Ile Ser Gln Ser Met Asp Tyr Trp His Asn Ala Gly Leu Cys			
35	40	45	
Val Ile Leu Phe Ser Ile Val Gln Gly Cys Arg Phe Ala Arg Gly Asn			
50	55	60	
Asp Tyr Phe Ala Tyr Ser Arg Ile Phe Arg Glu Gly Ser Leu His Val			
65	70	75	80
Glu Asn Pro Phe Phe Ser Val Ile Asn Glu Leu Leu Arg Ile Val Gly			
85	90	95	
Ile Asn Glu Tyr Ser Cys Phe Met Val Tyr Ala Phe Thr Phe Ala Leu			
100	105	110	
Cys Ala Met Ile Phe Met Lys Asp Tyr Arg Thr Tyr Ala Arg Tyr Met			
115	120	125	
Phe Pro Leu Phe Leu Ile Gly Phe Met Asn Phe Glu Glu Ser Met Ile			
130	135	140	
Arg Gln Ala Phe Ser Tyr Ser Phe Phe Leu Tyr Leu Lys Tyr Leu			
145	150	155	160
Phe Lys Leu Lys Phe Asn Lys Pro Lys Asp Ile Leu His Asn His Lys			
165	170	175	
Lys Leu Ile Tyr Cys Ile Ile Phe Ala Ile Leu Thr Leu Ala Ile His			
180	185	190	
Thr Gly Asn Ile Ile Ser Leu Phe Val Ile Thr Thr Leu Tyr Ile Phe			
195	200	205	
Trp Arg Lys Pro Phe Gln Pro Gln Phe Ala Ile Pro Ile Tyr Val Ala			
210	215	220	
Cys Val Tyr Ile Leu Pro His Ile Phe Asn Phe Asn Trp Leu Glu Pro			
225	230	235	240
Ile Leu Ser Phe Ala Ala Asp Thr Asn Glu Arg Ala Ala Glu Tyr Val			
245	250	255	
Lys Asn Ala Asp Tyr Trp Phe Ser Glu Lys Gly Glu Asn Asp Gln Tyr			
260	265	270	
Asp Lys Asn Phe Ile Val Glu Ile Ile Gln Val Ile Gly Ser Ser Ala			
275	280	285	
Leu Met Tyr Phe Gly Tyr Arg Leu Ile Ile Glu Lys Leu Pro Lys His			
290	295	300	
Tyr Ala Leu Ile Thr Met Leu Asn Thr Phe Ile Ile Gly Leu Cys Ile			
305	310	315	320
Glu Ser Ile Phe Val Lys Leu Glu Ile Leu His Arg Ile Gly Gln Thr			
325	330	335	
Leu Asp Ile Val Gly Tyr Phe Ala Leu Ala Ile Val Val Ser Tyr Lys			

340	345	350
Thr Ile Lys Leu Lys Pro Ile Gln Lys Val Ala Tyr Val	Cys Leu Leu	
355	360	365
Trp Phe Val Tyr Tyr Val Lys Tyr Leu Phe Phe Ser Gly Arg Thr		
370	375	380
Met Phe Ile Trp Asp Thr His Tyr Pro Phe Phe Lys Phe Ile		
385	390	395

&lt;210&gt; 6840

&lt;211&gt; 393

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6840

Ile Thr Ile Asp Met Ala Val Lys Ile Leu Ser Val Asp Asp Glu Leu			
1	5	10	15
Asp Leu Glu Val Leu Leu Thr Gln Tyr Phe Arg Arg Gln Ile Arg Lys			
20	25	30	
Gly Glu Tyr Glu Phe Ala Phe Ala His Asn Gly Leu Glu Ala Leu Gln			
35	40	45	
Lys Leu Leu Glu Thr Pro Asp Phe Asp Ile Ile Leu Ser Asp Ile Asn			
50	55	60	
Met Pro Glu Met Asp Gly Leu Thr Leu Leu Ala Lys Val Asn Glu Leu			
65	70	75	80
Lys Asn Pro Ala Met Lys Cys Ile Met Val Ser Ala Tyr Gly Asp Met			
85	90	95	
Asp Asn Ile Arg Ser Ala Met Asn Lys Gly Ala Phe Asp Phe Ala Thr			
100	105	110	
Lys Pro Ile Asp Leu Asp Asp Leu Ser Arg Thr Ile Glu Lys Ala Ile			
115	120	125	
Glu Gln Val Arg Tyr Ile Arg Glu Ser Gln Gln Glu His Asn Gln Leu			
130	135	140	
Glu Ser Ile Lys Asn Asp Leu Ala Ile Ala Gly Glu Ile Gln Gln Thr			
145	150	155	160
Ile Leu Pro Arg Ser Phe Pro Pro Phe Pro Glu Leu Thr Glu Val Val			
165	170	175	
Asp Ile Tyr Ala Ser Met Thr Pro Ala Lys Asp Val Gly Gly Asp Phe			
180	185	190	
Tyr Asp Phe Phe Gln Ile Asp Asp Glu Arg Ile Gly Leu Val Ile Ala			
195	200	205	
Asp Val Ser Gly Lys Gly Val Pro Ala Ser Leu Phe Met Ala Val Ser			
210	215	220	
Arg Thr Leu Leu Arg Ala Thr Ala Leu Arg Gly Val Ser Ser Ala Glu			
225	230	235	240
Cys Leu Thr Tyr Ala Asn Lys Leu Leu Cys Lys Glu Ser Leu Asp Ser			
245	250	255	
Met Phe Val Thr Val Phe Tyr Gly Ile Tyr His Tyr Lys Thr Gly Met			
260	265	270	
Met Asp Tyr Thr Asn Ala Gly His Asn Pro Pro Tyr Leu Leu Arg Gly			
275	280	285	
Gly Arg Thr Val Glu Cys Leu Pro Val Ala Ser Asn Phe Val Val Gly			
290	295	300	
Val Phe Asp Asp Ile Glu Phe Glu Ser Asn Thr Leu Thr Phe Gly Ile			
305	310	315	320
Gly Asp Thr Leu Leu Leu Tyr Thr Asp Gly Val Thr Glu Ala Phe Asn			
325	330	335	
Asp Lys Arg Glu Gln Phe Ser Glu Ser Asn Leu Gln Asp Ile Leu Ala			
340	345	350	
Ser Met His Glu Ser Ser Ser Ala Lys Glu Val Val Thr Ser Val Leu			

355	360	365
Gln Ser Val Lys Thr Phe Ser Gly Asp Tyr Pro Gln	Ser Asp Asp Ile	
370	375	380
Thr Leu Leu Ser Leu Gln Arg Ile Lys		
385	390	

&lt;210&gt; 6841

&lt;211&gt; 159

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6841

Lys Ser Lys Glu Asn Met Ser Met His Thr Trp Phe Glu Cys Lys Ile			
1	5	10	15
Arg Tyr Glu Lys Leu Met Glu Asn Gly Met Asn Lys Lys Val Thr Glu			
20	25	30	
Pro Tyr Leu Val Asp Ala Leu Ser Phe Thr Glu Ala Glu Ala Arg Ile			
35	40	45	
Ile Glu Glu Met Thr Pro Phe Ile Thr Gly Glu Phe Thr Val Ser Asp			
50	55	60	
Ile Lys Arg Ala Asn Tyr Ser Glu Leu Phe Pro Ser Glu Glu Ala			
65	70	75	80
Ala Asp Arg Trp Phe Lys Cys Lys Leu Ile Phe Ile Thr Leu Asp Glu			
85	90	95	
Lys Ser Gly Ala Glu Lys Lys Thr Ser Thr Gln Val Leu Val Gln Ala			
100	105	110	
Ala Asp Leu Arg Asp Ala Val Lys Lys Leu Asp Glu Gly Met Lys Gly			
115	120	125	
Thr Met Ala Asp Tyr Gln Ile Gly Ser Val Ala Glu Thr Ala Ile Met			
130	135	140	
Asp Val Tyr Pro Tyr Ser Ser Glu Pro Asn Asp Lys Pro Glu Val			
145	150	155	

&lt;210&gt; 6842

&lt;211&gt; 134

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6842

Phe Met Lys Glu Asn Ser Ile Lys Pro Tyr Cys Tyr Cys Gly Glu Ser			
1	5	10	15
Glu Ser Ser Leu Val Asp Asn Ala Ile Phe Val Tyr Phe Gly Asp Glu			
20	25	30	
Tyr Arg Arg Val Leu Leu Asp Glu Ile Leu Trp Leu Glu Ala Ser Gly			
35	40	45	
Ser Tyr Cys Val Leu Cys Met Glu Asn Gly Ala Glu Ile Thr Val Ser			
50	55	60	
Tyr Pro Leu Asp Arg Ile Phe Asn Asn Asp Leu Pro Arg Gly Lys Phe			
65	70	75	80
Gln Arg Ile His Arg Ser Tyr Ala Ile Asn Val Phe Lys Val Thr Gly			
85	90	95	
Phe Ala Gly Asn Tyr Val His Ile Gly Lys Lys Met Leu Pro Val Ser			
100	105	110	
Glu Ser His Lys Lys Asn Phe Leu Ala Cys Phe His Lys Ile Tyr Ser			
115	120	125	
Lys Arg Ala Leu Gly Lys			
130			

&lt;210&gt; 6843

<211> 206  
<212> PRT  
<213> B.fragilis

<400> 6843

Tyr	Asn	Met	Asp	Asn	Lys	Lys	Val	Arg	Ser	Thr	Ser	Ser	Gln	Val	Met
1															15
Glu	Leu	Gln	Gln	Leu	Ile	Ala	Gly	Pro	Leu	Ile	Ala	Thr	Ile	Glu	Ala
					20				25				30		
Asp	Ser	Leu	Ser	Ser	Gln	Arg	Tyr	Leu	Asp	Tyr	Leu	Met	Lys	Ile	Ala
					35				40			45			
Phe	Glu	Ser	Tyr	Asp	Pro	Val	Thr	Gly	Arg	Thr	Gly	Lys	Ile	Arg	Met
					50				55			60			
Leu	Thr	Phe	Asn	Tyr	Gln	Ser	Gln	Asp	Ala	Gly	Gly	Arg	Thr	Gln	
					65				70			80			
Ser	Val	Ser	Ile	Pro	Ile	Leu	Thr	Leu	Val	Pro	Leu	Pro	Leu	Leu	Gln
					85				90			95			
Val	Gln	Glu	Ala	Asp	Phe	Asp	Phe	Asp	Ile	Lys	Ile	Leu	Asp	Ala	Leu
					100				105			110			
Ser	Glu	Thr	Ala	Glu	Glu	Lys	Phe	Ser	Leu	Glu	Gly	Lys	Ser	Val	
					115				120			125			
Asn	Glu	Pro	Gln	Ser	Gly	Gly	Phe	Lys	Leu	Arg	Ala	Ser	Leu	Ala	
					130				135			140			
Pro	Lys	Gln	Gly	Glu	Gly	Ser	Ser	Thr	Ser	Asn	Val	Gln	Gln	Ser	Leu
					145				150			155			160
Ser	Ala	Asn	Met	Lys	Val	Lys	Val	Lys	Met	Arg	Gln	Ala	Asp	Met	Pro
					165				170			175			
Ala	Gly	Leu	Ser	Asn	Leu	Leu	His	Leu	Thr	Ala	Ser	Asn	Met	Gln	Val
					180				185			190			
Glu	Glu	Thr	Glu	Ala	Glu	Glu	Ile	Thr	Glu	Gly	Gly	Asn	Lys		
					195				200			205			

<210> 6844  
<211> 193  
<212> PRT  
<213> B.fragilis

<400> 6844

Arg	Ile	Ala	Glu	Ser	Ser	Glu	Cys	Ala	Gly	Glu	Phe	Gly	Glu	Lys	Lys
1									10						15
Gln	Val	Gln	Arg	Leu	Asn	Gly	Arg	Gly	Met	Lys	Leu	Thr	Phe	Phe	Lys
									20			25		30	
Arg	Met	Gly	Glu	Lys	Ile	Arg	His	Pro	Phe	Arg	Lys	Glu	Ile	Pro	Lys
					35				40			45			
Thr	Ile	Pro	Val	Val	Glu	Thr	Ala	Pro	Gln	Pro	Val	Ala	Asp	Asn	Thr
					50				55			60			
Thr	Glu	Ala	Thr	Ala	Glu	Asp	Ser	Ser	Val	Ile	Arg	Ser	Ala	Asp	Gln
					65				70			75			80
Cys	Gly	Glu	Gln	Ala	Arg	Tyr	Phe	Leu	Leu	Arg	Asn	Asn	Lys	Pro	Val
					85				90			95			
Gly	Lys	Pro	Phe	Ser	Tyr	Tyr	His	Pro	Glu	Ile	Arg	Ile	Val	His	Val
					100				105			110			
Gly	Ser	Phe	Val	Asn	Ala	Phe	Leu	Phe	Phe	Leu	Arg	Met	Cys	Asp	Gln
					115				120			125			
Arg	Leu	Leu	Thr	Tyr	Arg	Gln	Thr	Gly	Glu	Tyr	Leu	His	Cys	Thr	Ala
					130				135			140			
Val	Phe	Pro	Asp	Glu	Ser	Gly	Asn	Leu	Tyr	Phe	Thr	Asn	Lys	Val	Thr
					145				150			155			160
Cys	Arg	Asn	Lys	Glu	Asn	Thr	Val	Ala	Val	Leu	Lys	Ile	Asp	Tyr	Val

165	170	175
Gly Leu Lys Pro Lys Ile Thr Glu Ile Arg Phe Glu Leu Asn Ile Lys		
180	185	190

Lys

&lt;210&gt; 6845

&lt;211&gt; 190

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6845

Arg Ile Arg Glu Arg Pro Ser Leu Pro Phe Leu Lys Pro Tyr Ser Gln		
1	5	10
Ser Asp Met Lys Ser Trp Leu Ala Ala Tyr Val Arg Leu Tyr His Glu		
20	25	30
Lys Lys Thr Arg Asp Arg Leu Thr Ala Met Gly Ile Glu Ser Phe Leu		
35	40	45
Pro Val Gln Glu Glu Ile His Gln Trp Ser Asp Arg Arg Lys Lys Ile		
50	55	60
Glu Arg Val Val Ile Pro Met Met Ile Phe Val His Val Asp Pro Ala		
65	70	75
Glu Arg Ala Glu Val Leu Thr Leu Ser Ser Val Ser Arg Tyr Met Val		
85	90	95
Leu Arg Gly Gln Ser Thr Pro Ala Val Ile Pro Asp Glu Gln Met Glu		
100	105	110
Arg Phe Arg Phe Met Leu Asp Tyr Ser Glu Glu Ala Ile Glu Val Cys		
115	120	125
Ser Ser Pro Leu Ala Pro Gly Glu Gln Val Arg Val Ile Lys Gly Pro		
130	135	140
Leu Ala Gly Leu Glu Gly Glu Leu Val Thr Ile Asp Gly Lys Ser Lys		
145	150	155
Val Ala Val Arg Leu Asp Met Leu Gly Cys Ala His Val Asp Met Pro		
165	170	175
Val Gly Phe Val Glu Arg Val Gly Lys Met Glu Ala Val Arg		
180	185	190

&lt;210&gt; 6846

&lt;211&gt; 549

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6846

Arg Asn Ile Leu Met Glu Lys Leu His Ile Arg Lys Ile Ala Ser Leu		
1	5	10
Gly Leu Met Leu Cys Phe Phe Thr Gly Val Gly Ala Gln Thr Pro Val		
20	25	30
Lys Val Glu Lys Arg Lys Glu His Lys Ser Asn Thr Val Ile Pro Val		
35	40	45
Val Lys Gly Asn Val Thr Asp Thr Leu Ser Leu Val Ser Phe Asn Asp		
50	55	60
Phe His Gly Ala Phe Ala Cys Asp Lys Gly Val Pro Gly Ala Gly Gln		
65	70	75
Leu Val Gln Thr Val Leu Thr Gln Lys Glu Lys Asn Lys Asn Thr Ile		
85	90	95
Val Leu Ser Val Gly Asp Asn Phe Ser Gly Ser Tyr Phe Ser Arg Ile		
100	105	110
Thr Arg Gly Asn Pro Leu Pro Glu Met Phe Gln Glu Met Asp Val Lys		
115	120	125

Met Ser Ala Val Gly Asn His Glu Phe Asp Trp Gly Leu Pro Tyr Leu  
 130 135 140  
 Thr Asp Thr Ala Lys Val Tyr Met Asn Phe Val Ala Ala Asn Ile Ile  
 145 150 155 160  
 Thr Asp Arg Gly Asp Thr Leu Glu Trp Ala Lys Pro Tyr Arg Ile Val  
 165 170 175  
 Thr Leu Asn Leu Lys Asn Gly Gly Thr Val Arg Val Ala Phe Val Gly  
 180 185 190  
 Leu Thr Thr Asp Thr Ala His Lys Thr Ser Pro Glu Asn Ile Lys  
 195 200 205  
 Gly Leu Ala Phe Val His Pro Val Tyr Ala Ala Arg Val Glu Thr Ala  
 210 215 220  
 Cys Arg Leu Lys Lys Glu Gly Lys Val Asp Met Val Val Leu Leu Met  
 225 230 235 240  
 His Ile Gly Thr Asn Met Lys Asn Arg Asp Ile Ile Glu Glu Glu Asn  
 245 250 255  
 Ala Lys Leu Leu Pro Phe Leu Lys Gly Val Asp Ala Ile Ile Ser Gly  
 260 265 270  
 His Ser His Glu Val Val Leu Ser Lys Val Asn Asp Val Pro Ile Ile  
 275 280 285  
 Gln Ala Gly Val Asn Gly Thr His Ile Gly Lys Leu Asp Phe Arg Val  
 290 295 300  
 Val Lys Glu Glu Gly Gly Asn Arg Ile Ser Tyr Ile Gly Gly Asp Thr  
 305 310 315 320  
 Ile Arg Thr Glu Gly Pro Ser Asn Ala His Ile Asp Ser Leu Val Asp  
 325 330 335  
 Lys Val Leu Ala Val Tyr Gly Leu Ser Glu Lys Leu Ile Leu Ala Lys  
 340 345 350  
 Asp Ala Leu Ile His Asp Arg Thr Ile Asn Lys Trp Glu Tyr Thr Pro  
 355 360 365  
 Val Gly Ala Tyr Val Thr Ala Ala Tyr Val Arg Ser Phe Leu Glu Asn  
 370 375 380  
 Glu Lys Val Pro Ala Glu Leu Lys Val Leu Pro Val Ile Gly Val Asn  
 385 390 395 400  
 His Phe Gly Gly Leu Arg Ala Ser Ile Pro Ala Gly Glu Val Thr Arg  
 405 410 415  
 Leu Arg Ala Gly Asn Val Leu Pro Phe Gly Gly Asn Val Val Ala Tyr  
 420 425 430  
 Glu Phe Thr Gly Glu Arg Leu Lys Gln Leu Leu Asp Asp Gly Arg Arg  
 435 440 445  
 Asn Lys Asn Gly Phe Leu Gln Thr Ser Tyr Leu Lys Leu His Leu Asn  
 450 455 460  
 Ser Lys Gly Asn Val Glu Thr Ile Thr Asp Cys Arg Thr Asn Lys Ile  
 465 470 475 480  
 Ile Arg Asp Asp Asp Lys Cys Ile Val Val Leu Asp Ala Phe Ile Thr  
 485 490 495  
 Ser Gly Gly Asp Gly Tyr Asp Ser Lys Leu Phe Ser Gly Tyr Glu Ile  
 500 505 510  
 Gly Asp Phe Asn Ser Gln Asn Leu Glu Thr Thr Val Ala Phe Ile Asp  
 515 520 525  
 Tyr Leu Lys Ser Leu Lys Gly Phe Val Ser Ser Glu Ala Ala Pro Ile  
 530 535 540  
 Pro Ile Val Gln Lys  
 545

&lt;210&gt; 6847

&lt;211&gt; 75

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

<400> 6847

```

Ser His Thr Leu Phe Phe Leu Gln Ala Tyr Pro Met Pro Ile Ser Ile
1           5           10           15
Leu Cys His Thr Leu Pro Thr Tyr Asp Phe Thr Ala Pro Trp Ser Tyr
20          25          30
Val Gln Pro Leu Ser Arg Ser His Ala Asn Ala Pro Arg Phe Leu Ala
35          40          45
Asp Leu Asn Pro Ala Asp Lys Phe Met Glu Leu Asn Leu Pro His Val
50          55          60
Gly His Leu Ser His Gly Ser Leu Leu Thr Thr
65          70          75

```

<210> 6848

<211> 258

<212> PRT

<213> B. fragilis

<400> 6848

<210> 6849

<211> 368

<212> PRT

<213> B.*fragilis*

&lt;400&gt; 6849

Arg His Ser Trp Trp Asp Thr Ser Lys Ser Ile Lys Ile Gln Arg Asn  
 1 5 10 15  
 Lys Tyr Thr Ile Lys Pro Leu Leu Ser Met Pro Lys Val Leu Val Val  
 20 25 30  
 Ala Thr Ser Arg Lys Thr Lys Gly Gly Ile Thr Ser Val Val Lys Ala  
 35 40 45  
 His Glu Thr Gly Glu Gln Trp Lys Lys Phe His Cys Lys Trp Ile Glu  
 50 55 60  
 Thr His Arg Asp Gly Asn Ser Val Arg Lys Leu Trp Tyr Leu Ala Thr  
 65 70 75 80  
 Ala Leu Ile Glu Tyr Ile Cys Leu Leu Pro Phe Tyr Asp Ile Val His  
 85 90 95  
 Ile His Val Gly Leu Arg Thr Ser Val Asn Arg Lys Leu Ile Phe Ala  
 100 105 110  
 Arg Ile Ala Leu Leu Phe Arg Lys Lys Ile Ile Val His Phe His Pro  
 115 120 125  
 Ala Thr Glu Lys His Leu Phe Asp Pro Met Phe Ser Gly Asn Ile Lys  
 130 135 140  
 His Leu Phe Glu Leu Ser Asn Lys Leu Leu Val Leu Ser Pro Lys Trp  
 145 150 155 160  
 Ile Glu Trp Ile Asn Glu Ala Tyr Arg Gly Asn Lys Tyr Asn Ile Gln  
 165 170 175  
 Val Leu Tyr Asn Pro Cys Pro Ser Val Lys Arg Ser Ile Gln Arg Glu  
 180 185 190  
 Asn Tyr Ile Leu Tyr Ala Gly Ile Leu Ser Asp Arg Lys Gly Tyr Asn  
 195 200 205  
 Arg Leu Ile Glu Ala Phe Ser Lys Ile Ala Ala Lys Tyr Pro Asp Trp  
 210 215 220  
 Lys Ile Lys Phe Ala Gly Asn Gly Glu Ile Glu Lys Gly Lys Ser Leu  
 225 230 235 240  
 Ala Val Lys Phe Gly Ile Glu Gln Gln Thr Glu Phe Leu Gly Trp Ile  
 245 250 255  
 Ala Gly Asn Thr Lys Glu Ser Ile Phe Gln His Ala Ser Ile Tyr Cys  
 260 265 270  
 Leu Pro Ser Trp Gly Glu Gly Phe Pro Met Gly Val Ile Asp Ala Ile  
 275 280 285  
 Ala Tyr Gly Ile Pro Val Ile Thr Thr Pro Val Gly Gly Leu Glu Lys  
 290 295 300  
 Val Phe His Asp Gly Ile Asp Ala Met Ile Tyr Glu Thr Tyr Asp Leu  
 305 310 315 320  
 Lys Met Leu Ala Asp Lys Leu Glu Gln Leu Ile Lys Ser Glu Thr Tyr  
 325 330 335  
 Arg Asn Ser Ile Val Asn Glu Ala Asp Lys Leu Val Cys Ser Asp Phe  
 340 345 350  
 Asn Ile Ile Thr Ile Cys Asn Lys Ile Glu Lys Ile Tyr Glu Asn Met  
 355 360 365

&lt;210&gt; 6850

<211> 378  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 6850

Cys His His Arg Ser Gln Cys Cys Cys Asn Lys Arg Arg Thr Lys Gln  
 1 5 10 15  
 Leu Tyr Ser Ser Gly Cys Thr Cys Lys Asn Tyr Lys Glu Asn Met Ile  
 20 25 30  
 Tyr Leu Ile Cys Gln Asp Trp Ser Asn Thr Ser Asn Asn His Ala Gly

35	40	45
Ile Lys Tyr Leu Cys Asn Gln	Ile Gln Glu Met	Tyr Pro Glu Ser Tyr
50	55	60
Lys Thr Phe Val Ile Pro Ala Phe Trp	Asn Asp Arg	Ser Lys Ser Pro
65	70	75
Ile Arg Ile Ile Ala Ser	Leu Gln Tyr His	Phe Ala Arg Tyr Lys His
85	90	95
Arg Leu Tyr Thr Lys Lys	Leu Tyr Asn His	Ile Ile Ser Lys Leu Arg
100	105	110
Lys Gly Asp Lys Ile Ile	Leu Met Glu	Tyr Met Glu Lys Phe Phe Pro
115	120	125
Met Leu His Phe Ala Gln	Val Lys Arg	Tyr Lys Phe Asn Ile Pro
130	135	140
Leu Tyr Ala Met Val His	Leu Val Pro Ser	Arg Leu Glu Lys Gly Phe
145	150	155
Ser Asp Lys Lys Thr Phe Asp	Glu Trp Thr	Ile Cys Ile Asp Lys Phe
165	170	175
Leu Thr Leu Gly His Ser	Leu Thr Gln Phe	Leu Ile Thr Lys Gly Leu
180	185	190
Pro Glu Asp Lys Val Val	Thr Phe His	Tyr Val Asp Glu Tyr Tyr
195	200	205
His Asn Lys Arg Pro Val Arg	Leu His Lys Asn	Ile Arg Val Ile Ala
210	215	220
Met Gly Asn Gln Met Arg	Asn Leu Lys	Leu Lys Thr Ile Val Asp
225	230	235
Asn Asn Pro Asn Val Asn	Phe Thr Ile Cys	Gln Gly Val Asn Asp Leu
245	250	255
Ser Ser Tyr Phe Leu Lys Asn	Thr Asn Val	Glu Leu Ile Pro Phe Val
260	265	270
Glu Glu Ser Glu Leu Arg	Gln His Met	Ala Asn Ala Asp Ile Ser Leu
275	280	285
Asn Val Met Glu Asp Thr	Val Gly Ser	Asn Val Ile Val Thr Ser Leu
290	295	300
Ala Met Gly Leu Ala Met	Ile Cys Ser Asn	Val Gly Ser Ile Lys Asp
305	310	315
Tyr Cys Asp Asp Ser Asn	Thr Ile Phe	Cys Asn Asn Ser Asn Val Glu
325	330	335
Asp Phe Ser Gln Ala Ile	Thr Ala Leu	Gln Thr Asp Arg Ile Arg Leu
340	345	350
Asn Thr Met Gln Gln Ser	Ala Ala Asn	Met Gly Leu Gln Phe Thr Ile
355	360	365
Glu Lys Phe Val Arg Gln	Ile Ser Ala	Leu
370	375	

&lt;210&gt; 6851

&lt;211&gt; 298

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6851

Val Gly Asp Arg Met	Glu Ser Thr	Tyr Ile Glu Leu Lys Asp Ile Ala
1	5	10
Gln Glu Ile Ser Asp	Gln Gly Glu	Gly Ile Glu Phe Asn Pro Leu Arg
20	25	30
Leu Glu Glu Val Asn Asp	Gly Leu Asn	Leu Ile Tyr Ser Leu Glu Gln
35	40	45
Lys His Arg Val Gln Thr	Val Glu Glu	Leu Ile Ala Leu Ser Glu Gln
50	55	60
Tyr Ala Thr Arg	Leu Ala	Ile Thr Ser Tyr Asp Asp Arg Ile Val

65	70	75	80
Lys	Leu	Thr	Glu
Arg	Arg	Asp	Ala
85	90	95	
Gln	Tyr	Asn	Val
		Lys	Lys
			Gln
Ala	Ala	Val	Leu
		Thr	Lys
100	105	110	
Ala	Ala	Arg	Thr
115	120	125	
Gln	Gln	Met	Ala
		Ala	Arg
130	135	140	
Phe	Gln	Val	Glu
		Met	Gly
145	150	155	160
		Leu	Lys
Ser	Val	Ser	Asn
165	170	175	
Ser	Ile	Lys	Asn
180	185	190	
Phe	Asp	Glu	Thr
195	200	205	
		Ile	Asp
Ala	Asp	Ile	Met
210	215	220	
Ile	Thr	His	Leu
225	230	235	240
		Pro	Gln
Val	Tyr	Lys	Ile
245	250	255	
Leu	Thr	Asp	Glu
260	265	270	
Ala	Thr	Leu	Thr
275	280	285	
Pro	Ser	Leu	Lys
290	295		

&lt;210&gt; 6852

&lt;211&gt; 263

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6852

Phe	Met	Leu	Arg	Ser	Leu	Tyr	Ile	Gln	Asn	Tyr	Ala	Leu	Ile	Glu	Lys
1					5				10					15	
Leu	Asp	Ile	Arg	Phe	Glu	Thr	Gly	Phe	Ser	Val	Ile	Thr	Gly	Glu	Thr
								20		25				30	
Gly	Pro	Gly	Gln	Ser	Ile	Ile	Leu	Gly	Ala	Ile	Gly	Leu	Leu	Gly	
						35			40			45			
Gln	Arg	Ala	Asp	Val	Lys	Ala	Ile	Arg	Gln	Gly	Ala	Ser	Lys	Cys	Val
					50			55			60				
Ile	Glu	Ala	Arg	Phe	Asp	Ile	Ser	Ala	Tyr	His	Met	Glu	Ala	Phe	Phe
	65					70			75			80			
Glu	Glu	Asn	Glu	Leu	Glu	Tyr	Glu	Pro	Glu	Cys	Ile	Leu	Arg	Arg	Glu
					85				90			95			
Val	Gln	Ser	Ser	Gly	Lys	Ser	Arg	Ala	Phe	Ile	Asn	Asp	Thr	Pro	Ala
						100			105			110			
Ser	Leu	Thr	Gln	Met	Lys	Glu	Leu	Gly	Glu	Gln	Leu	Ile	Asp	Val	His
						115			120			125			
Ser	Gln	His	Gln	Asn	Leu	Leu	Asn	Lys	Glu	Gly	Phe	Gln	Leu	Asn	
					130			135			140				
Val	Leu	Asp	Ile	Leu	Ser	His	Asn	Glu	Glu	Ala	Leu	Asp	Val	Tyr	His
	145					150			155			160			
His	Leu	Tyr	Gln	Asp	Trp	Lys	Lys	Leu	Cys	Lys	Glu	Leu	Asp	Glu	Leu
						165			170			175			
Ile	Val	Leu	Ala	Glu	Gln	Ser	Lys	Thr	Asp	Glu	Asp	Tyr	Ile	Arg	Phe

180	185	190
Gln Leu Glu Gln Leu Glu Glu Ala His Leu Thr Ala Gly Glu Gln Glu		
195	200	205
Glu Leu Glu Gln Glu Ala Glu Thr Leu Ala His Ala Glu Asp Ile Lys		
210	215	220
Ala Gly Leu Tyr Arg Val Gly Gln Thr Leu Ala Ser Asp Glu Gly Gly		
225	230	235
Leu Leu Ala Cys Ile Glu Arg Lys Ser Trp Arg Phe Glu Trp Ala Ala		
245	250	255
Glu Ser Ile Ser Thr Cys Arg		
260		

&lt;210&gt; 6853

&lt;211&gt; 151

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6853

Ile Val Arg Arg Ser Tyr Asn Phe Leu Gly Ile Ser Asp Glu Tyr Ser			
1	5	10	15
Pro Val Phe Ser Ser Leu Leu Leu Cys Cys Leu Asn Leu Phe Cys Asn			
20	25	30	
Phe Val Leu Cys Lys Asn Ile Lys Phe Lys Ile Thr Asp Tyr Met Lys			
35	40	45	
Phe Ile Val Ser Ser Thr Ala Leu Phe Ser His Leu Gln Ala Val Ser			
50	55	60	
Arg Val Ile Asn Ser Lys Asn Ala Leu Pro Ile Leu Asp Cys Phe Leu			
65	70	75	80
Phe Gln Leu Glu Asp Gly Thr Leu Ser Val Thr Val Ser Asp Ser Glu			
85	90	95	
Thr Thr Met Val Thr Ser Val Glu Val Asn Glu Ser Asp Ser Asn Gly			
100	105	110	
Lys Phe Ala Val Ala Ala Lys Thr Leu Leu Asp Ala Leu Lys Glu Ile			
115	120	125	
Pro Glu His Pro Leu Thr Leu Ile Ser Lys Pro Asp Thr Tyr Glu Ile			
130	135	140	
Thr Gly Thr Val Pro Glu Trp			
145	150		

&lt;210&gt; 6854

&lt;211&gt; 192

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6854

Ile Met Lys Leu Asn Asn Ile Lys Thr Gly Leu Leu Leu Ala Gly Leu			
1	5	10	15
Leu Leu Leu Phe Gly Asn Val Lys Ala Gln Asp Asn Pro Phe Lys Pro			
20	25	30	
Glu Trp Phe Val Ser Gly Gly Ile Asn Gly Ile Thr Ala Leu Asn Gly			
35	40	45	
Ser Ala Asn Asn Ile Leu Gly Gly Lys Val Ser Gly Gly Val Trp Leu			
50	55	60	
Asn Lys Ile Ile Gly Leu Arg Val Asp Ala Glu Ala Gly Asn Val Trp			
65	70	75	80
Leu Lys Gly Gly Tyr Asn Ala Val Thr Val Gly Ala Gly Ala Asp Ile			
85	90	95	
Leu Val Asn Leu Met Lys Asn Tyr Thr Asp Glu Asp Arg Lys Phe Arg			
100	105	110	

Leu Asn Ala Ile Phe Gly Leu Gly Tyr Asn Tyr Tyr Ser Phe Gly Asp  
     115                120                125  
 Asp Tyr Pro Arg Leu Ser Lys Thr Asn Thr Met Ser Gly Asn Phe Ser  
     130                135                140  
 Leu Gln Ala Ala Phe Arg Leu Asn Ser His Leu Ser Ile Phe Ala Glu  
     145                150                155                160  
 Pro Gly Ile Lys Ile Ser Thr Lys Phe Tyr Asp Ile Glu Asn Lys Asp  
     165                170                175  
 Asp Val Phe Ala Gly Gly Met Met Thr Val Gly Val Ile Tyr Lys Phe  
     180                185                190

&lt;210&gt; 6855

&lt;211&gt; 228

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6855

Thr Gln Asn Ser Ile Lys Met Asn Val Thr Asp Asn Leu Lys Gln Val  
     1                5                10                15  
 Leu Ala Glu Leu Pro Ser Gly Val Arg Leu Val Ala Val Ser Lys Phe  
     20                25                30  
 His Pro Asn Glu Ala Ile Glu Glu Ala Tyr Arg Ala Gly Gln Arg Ile  
     35                40                45  
 Phe Gly Glu Ser Lys Val Gln Glu Met Thr Gly Lys Tyr Glu Ser Leu  
     50                55                60  
 Pro Lys Asp Ile Glu Trp His Phe Ile Gly His Leu Gln Thr Asn Lys  
     65                70                75                80  
 Ile Lys Tyr Met Ala Pro Tyr Val Ser Met Ile His Gly Ile Asp Ser  
     85                90                95  
 Tyr Lys Leu Leu Ala Glu Val Asn Lys Gln Ala Ile Lys Ala Glu Arg  
     100               105               110  
 Val Ile Arg Cys Leu Leu Gln Ile His Ile Ala Gln Glu Glu Thr Lys  
     115               120               125  
 Phe Gly Phe Ser Phe Asp Glu Cys Lys Glu Met Leu Asn Ala Ala Glu  
     130               135               140  
 Trp Lys Ala Leu Ala Asn Ile Gln Ile Cys Gly Leu Met Gly Met Ala  
     145               150               155               160  
 Thr Asn Thr Asp Ser Lys Glu Gln Ile Glu Arg Glu Phe Arg Ser Leu  
     165               170               175  
 Asn Cys Phe Phe His Glu Val Lys Lys Gln Tyr Phe Ala Asn Glu Pro  
     180               185               190  
 Thr Phe Cys Glu Leu Ser Met Gly Met Ser His Asp Tyr His Leu Ala  
     195               200               205  
 Ile Lys Glu Gly Ser Thr Leu Val Arg Val Gly Ser Lys Ile Phe Gly  
     210               215               220  
 Glu Arg Val Tyr  
     225

&lt;210&gt; 6856

&lt;211&gt; 347

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6856

Gln Lys Ser Arg Asn Asn His Met Tyr Lys Ala Pro Pro Arg Asp Ile  
     1                5                10                15  
 Ser Ile Asp Ile Leu Lys Cys Ile Ala Ala Ile Met Ile Thr Asn Ser  
     20                25                30  
 His Met Asp Ile Leu Tyr Gly Asp Tyr Ser Tyr Leu Ala Thr Gly Gly

35	40	45
Ala Ile Gly Asp Ala Leu Phe	Phe Phe Cys Ser Gly Tyr Thr	Leu Phe
50	55	60
Leu Gly Arg Asp Met Asp	Phe Phe Asn Trp Tyr Lys	Arg Arg Ile Asn
65	70	75
Arg Ile Tyr Pro Thr Val	Phe Thr Trp Ala Leu Ile	Ala Ala Val Phe
85	90	95
Phe Asp Gln Arg Tyr Asp Met	Pro Glu Ile Leu Ile Lys	Gly Gly Gly
100	105	110
Trp Phe Val Ser Cys Ile Met	Ile Tyr Tyr Val Val	Leu Trp Phe Ile
115	120	125
Arg Lys Phe Leu Lys Lys His	Leu Lys Trp Val Phe	Phe Met Ala Ala
130	135	140
Thr Ile Thr Leu Leu Trp Tyr	Phe Val Leu Gly	Phe Gly Glu Lys Ser
145	150	155
Gly Asn Asn Met Tyr	Gly Trp Asn Tyr Phe Lys	Trp Cys Tyr Tyr Phe
165	170	175
Leu Phe Met Leu Leu Gly Ser	Met Met Gly Leu Lys	Arg Asn Leu Asn
180	185	190
Lys Lys Thr Tyr Pro Phe Phe	Glu Gly Leu Tyr Asp	Lys His Ile His
195	200	205
Ile Ile Pro Ile Phe Leu Lys	Leu Leu Ile Cys	Ile Val Leu Phe Phe
210	215	220
Gly Leu Cys Trp Phe Lys Cys	Gln Thr Gly	Ile Gly Trp Glu Leu Leu
225	230	235
Gln Ile Ser Ser Leu Ile Pro	Leu Leu Gly	Thr Thr Tyr Tyr Phe Trp
245	250	255
Arg Leu Ser Asn Thr Lys	Leu Leu Thr Gln Ala	Tyr His His His Leu
260	265	270
Thr Gly Pro Ile Ile Arg Phe	Ile Ser Gly Leu Cys	Leu Glu Ile Tyr
275	280	285
Leu Val Gln Tyr Asn Leu Phe	Thr Asp Lys Leu Asn Asn	Ile Phe Pro
290	295	300
Leu Asn Leu Leu Val Ile Phe	Ser Thr Ile Leu Val	Thr Ala Tyr Leu
305	310	315
Leu Arg Cys Leu Ser Arg Ile	Trp Ser Gln Thr Phe	Lys Asp Gly Asp
325	330	335
Tyr Asp Trp Arg Asp Val Thr	Lys Leu Tyr Ser	
340	345	

<210> 6857

<211> 316

<212> PRT

<213> B.fragilis

<400> 6857

Cys Val Cys Gly	Leu Phe Pro Gly Val	Cys Phe Val Asp Glu	Leu Arg
1	5	10	15
Gly Leu Ile Gly Ser	Gly Arg Val Thr Ser	Pro Tyr Leu His	Ile Gly
20	25	30	
Gly Gly Ser Asn	Leu Leu Phe Thr Lys	Asp Tyr Glu Gly	Thr Ile Leu
35	40	45	
His Ser Arg Ile Gly	Gly Val Glu Val Val	Ala Glu Thr Asp Asp Asp	
50	55	60	
Ile Val Val Arg Val	Gly Ala Gly Val Val	Trp Asp Asp Phe Val Asp	
65	70	75	80
Tyr Cys Val Gln Arg	His Trp Tyr Gly Val	Glu Asn Leu Ser	Leu Ile
85	90	95	
Pro Gly Glu Val	Gly Ala Ser Ala Val	Gln Asn Ile Gly	Ala Tyr Gly

100	105	110
Val Glu Val Lys Asp Leu Ile Val Arg Val Glu Thr Leu Asn Ile Glu		
115	120	125
Gly Lys Glu His Val Tyr Asp Val Thr Glu Cys Gly Tyr Ser Tyr Arg		
130	135	140
Asp Ser Ile Phe Lys Arg Pro Glu Asn Lys Ser Val Phe Val Thr Tyr		
145	150	155
Val Ser Phe Arg Leu Ser Lys Arg Glu His Tyr Thr Leu Asp Tyr Gly		
165	170	175
Thr Ile Arg Arg Glu Leu Glu Lys Tyr Pro Gly Val Thr Leu Asp Val		
180	185	190
Val Arg Arg Val Ile Ile Ala Ile Arg Glu Glu Lys Leu Pro Asp Pro		
195	200	205
Arg Val Met Gly Asn Ala Gly Ser Phe Phe Met Asn Pro Ile Val Gly		
210	215	220
Arg Glu Gln Phe Glu Ala Leu Gln Ala Glu Tyr Pro Gln Met Pro Phe		
225	230	235
Tyr Glu Ile Asp Thr Asp Arg Val Lys Ile Pro Ala Gly Trp Met Ile		
245	250	255
Asp Leu Cys Gly Trp Lys Gly Lys Ala Leu Gly Pro Ala Ala Val His		
260	265	270
Asp Lys Gln Ala Leu Val Leu Val Asn Arg Gly Gly Ala Lys Gly Ala		
275	280	285
Asp Val Ile Ala Leu Ser Asp Ala Val Arg Ala Ser Val Arg Ala Lys		
290	295	300
Phe Gly Ile Asp Ile His Pro Glu Val Asn Phe Ile		
305	310	315

&lt;210&gt; 6858

&lt;211&gt; 300

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6858

Ser Arg Phe Met Gln Thr Glu Asn Phe Thr Leu Gly Lys Lys Glu Leu			
1	5	10	15
Leu Ile Leu Leu Gly Leu Thr Leu Val Leu Pro Phe Pro Ile Asn Trp			
20	25	30	
Ala Leu Ile Glu Leu Asn Pro Leu Thr Leu Met Ala Gly Ala Asp Asp			
35	40	45	
Val Pro Thr Trp Ile Gly Phe Gly Ser Tyr Ile Gly Gly Ile Ile			
50	55	60	
Gly Gly Ile Ile Ser Ile Met Ile Leu Asn Lys Thr Leu Gln Gln Thr			
65	70	75	80
Gly Val Leu His His Asp Leu Lys Leu Leu Gln Leu Asp Thr Ile Ile			
85	90	95	
Tyr Thr Gln Gln Gln Asp Trp Phe Thr Gly Phe Lys Gln Glu Leu Ala			
100	105	110	
Glu Asn Leu Lys Ser Ile Asp Leu Tyr Val Leu Asn Thr Val Val Ser			
115	120	125	
Ser Ile Ser Met Lys Asn Tyr Ala Tyr Ala Lys Glu Val Leu Thr Glu			
130	135	140	
Ile Asn Lys Gly Leu Glu Tyr Gln Met Val Ala Ala Ser Phe Ser Phe			
145	150	155	160
Thr Ser Thr His Leu Ser Ser Glu Glu Lys Lys Tyr Met Asn Leu Val			
165	170	175	
Arg Arg Val Gln Thr Glu Tyr Ser Ser Phe Ile Lys Asp Ile Leu Tyr			
180	185	190	
Tyr Ile Pro Leu Ala Glu Thr Ile Ser Ser Arg Lys Lys Leu Asn Tyr			

195	200	205
Asp Gln Leu Met Asp Tyr Thr	Leu Ser Gln Tyr Asp	Tyr Leu Gln Gly
210	215	220
Gln Glu Gly Glu Ser Thr Ala Ser Gly Ala	Ile Ile Pro Arg Val Met	
225	230	235
Glu Ile Asp Pro Ser Asp Asp Ile Arg Lys	Glu Leu Glu Arg Ile Met	240
245	250	255
Glu Glu Arg Leu Thr Gly Arg Thr Tyr	Leu Tyr His Leu Lys Ser Asp	
260	265	270
Leu Ala Glu Ala Thr His Gln Leu Ile Ile Tyr	Glu Glu Asn Arg Ile	
275	280	285
Asn Ser Ile Leu His Lys Pro Glu Arg Glu Met Asn		
290	295	300

&lt;210&gt; 6859

&lt;211&gt; 133

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6859

Ile Leu Ile Ile Asn Glu Ser Asn Lys Met Lys Lys Val Ile Cys Ser		
1	5	10
Glu Lys Ala Pro Gly Ala Ile Gly Pro Tyr Ser Gln Ala Ile Glu Ala		15
20	25	30
Asn Gly Met Val Phe Val Ser Gly Gln Leu Pro Ile Asp Ala Ala Thr		
35	40	45
Gly Val Met Pro Asp Gly Val Glu Ala Gln Ala Arg Gln Ser Leu Glu		
50	55	60
Asn Ile Lys His Ile Leu Glu Ala Ala Gly Leu Thr Met Ala Asp Ile		
65	70	75
Val Lys Thr Thr Val Phe Leu Gln Asp Met Ser Leu Phe Ala Gly Met		80
85	90	95
Asn Gly Val Tyr Ala Thr Tyr Phe Asp Gly Ala Phe Pro Ala Arg Ser		
100	105	110
Ala Val Ala Val Lys Ala Leu Pro Lys Asp Ala Leu Val Glu Ile Glu		
115	120	125
Cys Ile Ala Ala Arg		
130		

&lt;210&gt; 6860

&lt;211&gt; 294

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6860

Lys Thr Ile Ile Met Ala Val Asp Lys Thr Pro Ser Gln Val Ala Thr		
1	5	10
Ser Ala Leu Gln Ala Ile Pro Phe Gly Ser Ile Ile Gly Gly Pro Leu		15
20	25	30
Lys Ala Cys Val Glu Ala Gln Ala Leu Ala Ala Lys Thr Thr Trp Glu		
35	40	45
Phe Ile Gln Asn Val Gly Ile Asn Val Asn Pro Glu Thr Gly Glu Lys		
50	55	60
Thr Ala Val Asn Val Ser Phe Ser Phe Ile Gln Gly Gly Arg Leu Val		
65	70	75
Gln Leu Asn Ile Pro Leu Leu Thr Ile Val Pro Ile Pro Tyr Ile Ala		80
85	90	95
Ile Arg Glu Val Asp Ile Asn Phe Lys Ala Asn Ile Ser Ala Ser Ser		
100	105	110

Ser Thr Thr Ala Glu Thr Asn Glu Ser Val Ser Lys Asp Ala Ala Leu  
 115 120 125  
 Lys Ala Ser Ala Ser Met Arg Phe Gly Cys Phe Lys Met Asn Ala Asp  
 130 135 140  
 Met Asn Ala Ser Tyr Ser Ser Lys Lys Asp Ser Lys Ala Thr Ser Asp  
 145 150 155 160  
 Ser Lys Tyr Ser Val Glu Tyr Thr Met Asp Val Ala Val Lys Ala Gly  
 165 170 175  
 Gln Asp Ser Met Pro Ala Gly Leu Ser Lys Ile Leu Glu Leu Leu Gly  
 180 185 190  
 Asn Ser Leu Asp Val Ser Asp Pro Ala Gly Thr Leu Glu Val Asn Ser  
 195 200 205  
 Asn Leu Leu Leu Ile Glu Asn Gly Lys Glu Thr Val Arg Leu Ile Ala  
 210 215 220  
 Thr Tyr Lys Asp Gly Ser Gly Leu Leu Ala Pro Asp Lys Leu Thr Ile  
 225 230 235 240  
 Thr Gly Thr Gly Ala Asn Ala Ala Asp Phe Lys Val Ser Gly Asp Ser  
 245 250 255  
 Lys Ile Ile Asp Leu Pro Glu Gly Thr Tyr Thr Ile Lys Ala Glu Gly  
 260 265 270  
 Ser Lys Lys Glu Val Ile Val Glu Val Lys Lys Asp Thr Ala Thr Pro  
 275 280 285  
 Gln Glu Glu Val Thr Glu  
 290

&lt;210&gt; 6861

&lt;211&gt; 88

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6861

Phe Asn Tyr Met Glu Asn Leu Glu Thr Ala Leu Leu Leu Met Val Val  
 1 5 10 15  
 Gly Met Ala Thr Val Phe Ala Ile Leu Leu Ile Val Ile Tyr Leu Gly  
 20 25 30  
 Lys Leu Leu Ile Ser Leu Val Asn Lys Tyr Ala Pro Glu Glu Gln Leu  
 35 40 45  
 Pro Ala Lys Gln Gly Thr Gln Ser Pro Val Pro Ile Pro Gly Asn Ile  
 50 55 60  
 Val Ala Thr Ile Thr Ala Ala Val Asn Val Val Thr Gln Gly Lys Gly  
 65 70 75 80  
 Lys Val Ala Lys Ile Glu Lys Ile  
 85

&lt;210&gt; 6862

&lt;211&gt; 392

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6862

Gln Lys Asn Ile Gln Met Lys Ile Gly Ile Ile Thr Ile Cys Lys Val  
 1 5 10 15  
 Asn Asn Tyr Gly Ala Glu Leu Gln Ala Phe Ala Thr Gln Lys Lys Leu  
 20 25 30  
 Glu Gln Met Gly His Asn Ala Glu Ile Ile Asn Tyr Leu Tyr Tyr Lys  
 35 40 45  
 Asp Trp His Phe Lys Asp Thr Pro Leu Ser Gln Pro Phe Val Pro Leu  
 50 55 60  
 Asp Met Lys Gly Lys Leu Ser Tyr Trp Ile Lys Tyr Arg Leu Met Ser

65	70	75	80
Trp Val Val Asn Lys Val Leu Pro Ile Phe Asn Gly Asn Met Arg Arg			
85		90	95
Arg Leu His Asn Tyr Gln Ser Phe Ile Asp Ser Glu Arg Phe Ser Ala			
100	105		110
Gln Tyr Lys Ser Met Asp Glu Leu Tyr Lys Thr Tyr Pro Lys Tyr Asp			
115	120		125
Ile Tyr Met Val Gly Ser Asp Gln Val Trp Asn Pro Ser Ala Ser Ser			
130	135	140	
Ser Ile Glu Pro Tyr Phe Leu Thr Phe Ala Pro Lys Asn Ala Pro Lys			
145	150	155	160
Val Thr Tyr Ala Ser Ser Phe Gly Val Ala Ser Ile Ala Pro Asn Leu			
165	170		175
Ser Lys Arg Tyr Ala Lys Leu Leu Asn Asn Leu Asp Thr Ile Ala Val			
180	185		190
Arg Glu Gln Ser Gly Val Glu Leu Val Lys Gln Leu Thr Gly Arg Glu			
195	200	205	
Ala Lys Leu Val Val Asp Pro Thr Leu Leu Leu Ser Lys Ala Asp Trp			
210	215	220	
Glu Pro Tyr Met Lys Pro Leu Ala Lys Ile Ser Thr Gln Tyr Ile Leu			
225	230	235	240
Ile Tyr Gln Leu Phe Pro Ser Gln Thr Val Ile Asp Val Ala Leu Lys			
245	250		255
Ile Gly Lys Glu Lys Asn Leu Pro Val Tyr Asn Ile Cys Lys Arg Ala			
260	265		270
Tyr Gly Met Lys Lys Ile Val Gly Ile Asn Asn Ile Leu Asp Ala Gly			
275	280	285	
Pro Ser Glu Phe Leu Trp Leu Ile Ala Asn Ala Thr Cys Met Val Thr			
290	295	300	
Asn Ser Phe His Gly Thr Ala Phe Ser Val Asn Phe Ala Thr Pro Phe			
305	310	315	320
Cys Cys Val Leu Asn Arg Lys Arg Lys Asn Asn Gly Arg Met Ile Ser			
325	330		335
Phe Leu Asp Lys Val Asp Met Ser Asn Arg Ile Leu Tyr Glu Asp Ser			
340	345		350
Ile Ala Glu Leu Asn Val Met Thr Ala Cys Ser Glu Val Thr Asn Asn			
355	360	365	
His Leu Arg Leu Leu Val Asn Asn Ser Ile Asp Tyr Leu Lys Ser Ile			
370	375	380	
Ile Glu Asn Lys Glu Gln Lys Cys			
385	390		

&lt;210&gt; 6863

&lt;211&gt; 191

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6863

His Lys Asn Ile Met Ile Gln Ser Lys Lys Asp Leu Lys Tyr Tyr Leu			
1	5	10	15

Ser Glu Asp Leu Lys Arg Phe Asn Asn His Lys Pro Asn Ile Lys Asp		
20	25	30

Trp Leu Leu His Asn Glu Ile Trp Tyr Ile Phe His Tyr Ile Arg His		
35	40	45

Leu Arg Tyr Val Glu Tyr Tyr Lys Asn Thr Asn Lys Asn Lys Ile Leu		
50	55	60

Phe Phe Tyr His Phe Phe Arg Tyr Lys Arg Leu Gly Phe Lys Leu Lys			
65	70	75	80

Ile Thr Ile Tyr Pro Asn Thr Ile Gly Ala Gly Leu Arg Ile Tyr His		
---	--	--

85	90	95
Val Gly Asp Phe Ile His Ile Gly Ala Gln Cys His Ile Gly His Asn		
100	105	110
Cys Thr Leu Leu Pro Gly Val Val Phe Gly Asn Lys Tyr Glu Lys Ala		
115	120	125
Thr Asp Thr Gln Ile Ile Ala Gly Asn Asn Cys Tyr Phe Gly Leu Gly		
130	135	140
Ala Lys Ile Phe Gly Ser Ile Ile Gly Asn Asn Val Thr Ile Gly		
145	150	155
Ala Asn Ala Val Val Thr Lys Asp Ile Pro Asp Asn Ala Ile Val Gly		
165	170	175
Gly Ile Pro Ala Lys Val Leu Arg Phe Lys Glu Ile Asn Ile Leu		
180	185	190

&lt;210&gt; 6864

&lt;211&gt; 194

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6864

Arg Arg Cys Ile Arg Ile Lys Arg Ile Thr Asn Met Lys Lys Ile Lys		
1	5	10
Thr Ala Phe Ala Leu Pro Leu Phe Trp Leu Leu Phe Lys Val Ser Lys		
20	25	30
Asp Met His Lys Ile Gln Val Asp Gly Gln Ala Trp Cys Gln Trp Gln		
35	40	45
His Lys Asn Phe Thr Leu Trp Asn Met Cys Ser Leu Phe Ile Gly Phe		
50	55	60
Lys Glu Phe Arg Asn Leu Phe Tyr Tyr Arg Ile Gly Tyr Leu His His		
65	70	75
Leu Ile Glu Trp Ile Phe Pro Arg Met Thr Asn Leu Tyr Ile Thr Thr		
85	90	95
Pro Arg Ser Asp Val Asp Ser Gly Leu Ile Ile Gln His Gly Phe Ala		
100	105	110
Thr Ile Ile Ser Ala Lys Gln Ile Gly Lys Asn Cys Lys Ile Tyr Gln		
115	120	125
Gln Val Thr Ile Gly Tyr Asp His Thr Leu Gln Ala Pro Ile Ile Gly		
130	135	140
Asp Asn Val Glu Ile Cys Cys Gly Ala Lys Val Ile Gly Gly Val Thr		
145	150	155
Ile Gly Asn Asn Val Ile Ile Gly Ala Asn Ala Val Val Ile Lys Asp		
165	170	175
Val Pro Asn Asn Cys Ile Val Ala Gly Val Pro Ala Lys Ile Ile Lys		
180	185	190
Lys Ile		

&lt;210&gt; 6865

&lt;211&gt; 536

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6865

Thr Cys Ile Met Ile Lys Leu Asn Glu Asn Ile Ile Arg Trp Ile Ile		
1	5	10
Ala Val Pro Cys Ile Leu Leu Thr Val Cys Leu Val Leu Tyr Arg Ala		
20	25	30
Tyr Arg His Ser Ala Ser Asp Arg Glu Arg Leu Ala Leu Ser Leu Glu		
35	40	45

Glu Phe Arg Asp Lys Glu Lys Ser Val Leu Ile Gln Arg Val Ser  
 50 55 60  
 Gln Gln Met Glu Glu Ile Ala Tyr Gln Gln Lys Asp Ile Ser Glu Lys  
 65 70 75 80  
 Arg Arg Gln Glu Ala Val Ala Gln Thr Gln Lys Ala Asn Arg Met Gln  
 85 90 95  
 Gln Gln Ala Glu Leu Ala Arg Glu Arg Ala Leu Ala Ala Gln Leu Glu  
 100 105 110  
 Ala Glu Lys Ala Tyr Arg Met Ala Asp Glu Gln Lys Asn Leu Ala Met  
 115 120 125  
 Glu Arg Gln Leu Gln Ala Glu Gln Ser Lys Arg Val Ala Asp Thr Leu  
 130 135 140  
 Ala Phe Leu Ala Leu Gly Arg Ser Leu Gly Thr Leu Ser Val Thr Gln  
 145 150 155 160  
 Tyr Arg Ser Gly Asn Met Glu Leu Ala Ser Leu Leu Ala Tyr Thr Ala  
 165 170 175  
 Trp Trp Phe Thr Lys Arg Tyr Asp Gly Asp Val Tyr His Pro Ala Val  
 180 185 190  
 Phe Asn Ala Leu Ser Leu Ser Cys Arg Gln Asp Gln Leu Trp Phe Gly  
 195 200 205  
 His Lys Gly Ala Val Thr Gly Ile Lys Leu Leu Ser Glu Gly Glu Glu  
 210 215 220  
 Lys Ala Arg Ala Gly Arg Asn Pro Leu Pro Gly Leu Val Thr Val Gly  
 225 230 235 240  
 Lys Tyr Gly Glu Met Ile Arg Trp Lys Ser Glu Asn Gly Gln Thr Tyr  
 245 250 255  
 Thr Ser Glu Leu Leu Asn Asp Pro Cys Tyr Asp Phe Arg Asp Val  
 260 265 270  
 Leu Leu Arg Ser Asp Ser Gln Met Tyr Ala Leu Ser Tyr Cys Gly Gln  
 275 280 285  
 Leu Ile Ser Thr Asp Ser Ala Gly Ile Val Thr Arg Phe Leu Pro Lys  
 290 295 300  
 Gly Glu Tyr Arg Gln Leu Ile Ser Ile Ala Ser Asn Leu Val Leu Ala  
 305 310 315 320  
 Val Ser Thr Thr Gly Ile Tyr Ser Phe Asp Cys Val Asn His Glu Ile  
 325 330 335  
 Gln Pro Tyr Phe Gln Pro Glu His Ser Ile Thr Cys Val Gly Gln Met  
 340 345 350  
 Glu Gly Tyr Leu Tyr Val Phe Phe Lys Asn Gly Thr Val Ala Leu Leu  
 355 360 365  
 Ser Ser Asp Gly Thr Phe Leu Arg Phe Ile Asp Ser Leu Pro Glu Asn  
 370 375 380  
 Ser Val Val Thr Ala Phe Cys Pro Leu Thr Asn Glu Arg Tyr Ala Ile  
 385 390 395 400  
 Gly Cys Arg Glu Gly Val Ile Leu Ile Cys Asp Lys Asn Gly Asn Ile  
 405 410 415  
 Arg Gln Lys Leu Ile Gly His Gln Ala Ala Val Thr Ala Ile Ser Arg  
 420 425 430  
 Lys Gly Asn Lys Leu Phe Ser Ser Tyr Asp Cys Thr Leu Arg Leu  
 435 440 445  
 Trp Asp Leu Arg Lys Gly Lys Thr Glu Ser Ala Val Ile Val Thr Ser  
 450 455 460  
 Pro Gly Trp Ile His Thr Phe Cys Phe His Pro Asp Gly Thr Ser Val  
 465 470 475 480  
 Phe Ile Gly Asp Glu Gln Gly Arg Leu Tyr Arg Val Pro Val Ser Pro  
 485 490 495  
 Asp His Met Ala Thr Val Val Arg Gln Gly Leu Gln Arg Asp Phe Thr  
 500 505 510  
 Arg Glu Glu Trp Glu Tyr Tyr Ile Gly Lys Gln Ile Pro Phe Glu Ser

515	520	
Tyr Tyr Leu Lys Thr Tyr Gln Pro		
530	535	

525

<210> 6866  
<211> 225  
<212> PRT  
<213> B.fragilis

<400> 6866

Leu	Phe	Leu	Ile	Asn	Gly	Lys	Val	Leu	Met	Arg	Phe	Ile	Leu	Phe	Ile
1							5		10						15
Ile	Phe	Ser	Leu	Cys	Leu	Pro	Leu	Val	Met	Gln	Gly	Gln	Glu	Gln	Asn
							20		25					30	
Val	Trp	Thr	Gln	Asn	Asp	Ser	Leu	Lys	Leu	Lys	Lys	Ile	Leu	Val	Gly
							35		40				45		
Gln	Ala	Glu	Ile	Arg	Ile	Asn	Arg	Glu	Ala	Leu	Arg	Glu	Leu	Asp	Arg
							50		55			60			
Ala	Phe	Ser	Ser	Pro	Arg	Arg	Leu	Phe	Lys	Ser	Gln	Ser	Arg	Ser	Ala
							65		70		75		80		
Ile	Leu	Leu	Ile	Lys	Asp	Phe	Leu	Leu	Tyr	Arg	Pro	Asn	Val	Phe	Thr
							85		90				95		
Gly	Lys	Tyr	His	Ile	Ser	Thr	Phe	Lys	Val	Asn	Glu	Leu	Asn	Ile	Arg
							100		105			110			
Gln	Asp	Ser	Leu	Phe	Met	Asn	Val	His	Met	Leu	Gly	Asn	Lys	Gln	Leu
							115		120			125			
Phe	Val	Lys	Ser	Gln	Leu	Asp	Ile	Gly	Asp	Pro	Arg	Val	Leu	Ile	Lys
							130		135			140			
Arg	Lys	Thr	Asp	Ile	Gln	Phe	Lys	Phe	Thr	Asp	His	Leu	Ala	Tyr	Arg
							145		150		155		160		
Val	Tyr	Gly	Gly	Tyr	Thr	Ile	Asp	Lys	Asn	Arg	Thr	Ile	Ile	Leu	Pro
							165		170			175			
Thr	Thr	Ala	Thr	Pro	Tyr	Tyr	Val	Gly	Thr	Gly	Phe	Ser	Tyr	Ser	Leu
							180		185			190			
Asn	Lys	Lys	Leu	Gln	Leu	Lys	Thr	Gly	Ile	Glu	Tyr	Gln	Tyr	Asn	Val
							195		200			205			
Ile	Tyr	Lys	Arg	Trp	Glu	Trp	Val	Trp	Asn	Ser	Gly	Ile	Arg	Phe	Asn
							210		215			220			

Phe  
225

<210> 6867  
<211> 813  
<212> PRT  
<213> B.fragilis

<400> 6867

Ile	Lys	Leu	Ile	Met	Lys	Thr	Asn	Ile	Gln	Glu	Asn	Leu	Ser	Arg	Ser
1							5		10				15		
Leu	Ser	Thr	Trp	Gly	Asp	Lys	Pro	Ala	Val	Val	Ala	Lys	Asp	Gly	Thr
							20		25			30			
Val	Ser	Tyr	Gln	Met	Leu	Glu	Arg	Tyr	Ser	Ala	Asn	Ile	Ala	Gln	Ser
							35		40			45			
Ile	Arg	Gln	Arg	Leu	Ser	Val	Thr	Asp	Pro	Ser	Gly	Leu	Arg	Asn	Ile
							50		55			60			
Cys	Ile	Gly	Val	Cys	Met	Glu	Arg	Asn	Lys	Thr	Leu	Val	Pro	Ala	Ile
							65		70		75		80		
Leu	Ala	Ile	Phe	Arg	Leu	Gly	Ala	Thr	Tyr	Leu	Pro	Ile	Asp	Pro	Ser
							85		90			95			

Leu Pro Asp Asn Arg Lys Arg Tyr Met Ala Glu Asn Ala Asp Met Val  
 100 105 110  
 Leu Leu Thr Asp Ser Ser Asn Glu Val Gly Gly Ile Pro Ser Val  
 115 120 125  
 Arg Gln Leu Tyr Leu Asn Gly Glu Gln Leu Ser Glu Pro Val Val Gly  
 130 135 140  
 Asp Tyr Thr Glu Val Leu Pro Asp Asp Cys Ala Tyr Ile Ile Tyr Thr  
 145 150 155 160  
 Ser Gly Thr Thr Gly Asn Pro Lys Gly Val Arg Ile Ser Tyr Arg Asn  
 165 170 175  
 Leu Asp Thr Phe Thr Arg Asn Leu Ile Asp Lys Lys Leu Tyr His Leu  
 180 185 190  
 Ser Asp Pro Ala Asn Arg Tyr Leu Ala Phe Ala Ser Ile Ser Phe Asp  
 195 200 205  
 Ala Ser Ile Leu Glu Leu Met Met Cys Ile Pro Ala Gly Gly Thr Leu  
 210 215 220  
 Ile Leu Ala Gly Glu Asp Glu Arg Arg Asp Ile Ser Leu Leu Asp Glu  
 225 230 235 240  
 Leu Ile Arg Arg Glu Lys Val Asn Ile Ala Phe Phe Pro Pro Ser Leu  
 245 250 255  
 Leu Gly Met Phe Ala Asp Leu Asp Phe Pro Ser Phe Lys Thr Leu Leu  
 260 265 270  
 Phe Gly Ala Glu Ala Ile Gly Glu Lys Leu Phe Asn Arg Leu Lys Gln  
 275 280 285  
 Gln Pro Tyr Arg Leu Met Asn Val Tyr Gly Pro Thr Glu Asn Thr Val  
 290 295 300  
 Leu Ser Thr Ile Arg Ile Val Gly Lys Asp Thr Ser Tyr Asp Asp Ile  
 305 310 315 320  
 Gly Tyr Pro Leu Lys Gly Thr Val Cys Tyr Val Leu Ser Glu Asn Leu  
 325 330 335  
 Gln Gln Thr Thr Leu Gly Ala Thr Gly Glu Leu Cys Leu Gly Gly Pro  
 340 345 350  
 Gln Val Ser Leu Gly Tyr Ile Gly Ser Val Gln Leu Asn Glu Lys Ser  
 355 360 365  
 Phe Ile Ser Tyr Asp Gly Glu Arg Leu Tyr Arg Thr Gly Asp Leu Val  
 370 375 380  
 Gln Gln Gln Pro Asp Gly Ser Ile Arg Phe Ile Gly Arg Lys Asp Thr  
 385 390 395 400  
 Gln Val Lys Ile Arg Gly Phe Arg Ile Glu Leu Thr Glu Ile Ala Glu  
 405 410 415  
 Arg Leu Asn Arg Asp Pro Asp Val Glu Arg Ala His Val Val Val Val  
 420 425 430  
 Glu Arg Asn Gly Arg Gln Leu Leu Gly Ala Tyr Leu Gln Pro Ser Val  
 435 440 445  
 Ser Gly Asn Phe His Pro Glu Glu Val Lys Glu Arg Leu Arg Ala Glu  
 450 455 460  
 Leu Pro Tyr Tyr Met Ile Pro Asn Leu Trp Gln Val Val Asp His Phe  
 465 470 475 480  
 Gln Arg Thr Ile Asn Asp Lys Ile Asp Val Arg Val Leu Pro Ala Phe  
 485 490 495  
 Thr Ser Leu Glu Leu Lys Tyr Val Pro Pro Val His Pro Gly Glu Val  
 500 505 510  
 Ile Leu Cys Gly Ile Leu Lys Glu Met Leu Gly Leu Pro Gln Val Ser  
 515 520 525  
 Val Glu Ala Asp Leu Ile Asp Asp Leu Gly Leu Thr Ser Leu Asp Met  
 530 535 540  
 Leu Arg Leu Val Thr Glu Ala Asn Lys Lys Gly Cys Pro Ile Asn Val  
 545 550 555 560  
 Ser Ala Val Tyr Thr Ala Arg Asn Leu Arg Arg Leu Leu Val Pro

565

570

575

Arg His Glu Pro Ile Tyr Trp Tyr Arg Gln Gln Asn Leu Lys Lys Pro  
 580 585 590  
 Val Ile Ile Leu Val Cys Gly Ser Ala Tyr Phe Asn His Leu Tyr Phe  
 595 600 605  
 Asn Leu Ala Asp Arg Leu Tyr Pro Lys Tyr Asp Phe Leu Val Val Asp  
 610 615 620  
 Ala Ile Tyr Asp His Phe Asn Lys Val Ala Thr Asp Ile Pro Glu Leu  
 625 630 635 640  
 Leu Glu Tyr Tyr Val Arg Thr Val Gln Pro Met Ile Arg Glu Arg Thr  
 645 650 655  
 Val Tyr Ala Leu Thr Gly Phe Cys Met Gly Ala Glu Leu Ala Val Gly  
 660 665 670  
 Leu Ala Glu Met Leu His Arg Ser Met Gly Ile Met Pro Lys Val Phe  
 675 680 685  
 Ala Leu Asp Gly Gln Ala Trp Gln Asn Pro Ala Leu Cys Gln Asn Tyr  
 690 695 700  
 Pro Leu Leu Val Phe Pro Gly Asp Thr Asp Glu Met Val Arg Glu Arg  
 705 710 715 720  
 Asn Glu Ile Ile Asn Ile Tyr Phe Arg Thr Thr Pro Asn Leu Ile Tyr  
 725 730 735  
 Gln Gly Glu Val Ile Val Leu Leu Ser Gly Leu Phe His Gln Gln Ala  
 740 745 750  
 Gly Leu Ser Pro Glu Glu Ser Trp Thr Glu Glu Ser Tyr Arg Ile Phe  
 755 760 765  
 Arg Thr Glu Tyr Asp Asn Cys Glu Arg Leu Trp Asn Lys Tyr Tyr Pro  
 770 775 780  
 Asn Ala Pro Val Leu Arg Leu Pro Thr Asp His Trp His Phe Leu Glu  
 785 790 795 800  
 Gly Glu Ser Leu Glu Gln Leu Ile Thr Val Phe Leu Lys  
 805 810

&lt;210&gt; 6868

&lt;211&gt; 237

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6868

His Gln Ser Met Arg Leu Lys Glu Ala Val Leu Thr Val Cys Val Met  
 1 5 10 15  
 Met Ile Thr Ser Gly Ile Lys Ala Gln Tyr Thr Met Gly Thr Thr Gly  
 20 25 30  
 Met Met Asn Ile Pro Thr Ala Glu Met Gln Gln Thr Gly Thr Phe Met  
 35 40 45  
 Ile Gly Gly Asn Tyr Leu Pro Glu Glu Leu Asn Pro Phe Lys Tyr Asn  
 50 55 60  
 Ser Gly Asn Tyr Phe Val Asn Ile Thr Phe Phe Ser Phe Leu Glu Leu  
 65 70 75 80  
 Asn Tyr Arg Cys Ile Leu Leu Lys Ser Asp Tyr Met Ala Lys Lys Pro  
 85 90 95  
 Lys Phe Asn Gln Gln Asp Arg Ser Leu Ser Val Arg Leu Arg Pro Leu  
 100 105 110  
 Lys Glu Gly Lys Tyr Trp Pro Ala Ile Val Ile Gly Ser Asn Asp Pro  
 115 120 125  
 Phe Lys Asp Lys Gly Tyr Asn Tyr Phe Ala Ser Val Tyr Gly Val Ala  
 130 135 140  
 Thr Lys Ser Phe Met Ile Gly Glu His Arg Leu Ala Ala Thr Ala Gly  
 145 150 155 160  
 Tyr Tyr Tyr Pro Leu Ser Lys Asp Lys Tyr Thr Leu Gln Asp Gly Ile

165	170	175
Phe Gly Gly Leu Ser Tyr Thr Pro Ser	Phe Cys Lys Pro Leu Ser Ile	
180	185	190
Met Ala Glu Tyr Asp Ser Asp Gly	Phe Asn Val Gly Ala Ala Ala Lys	
195	200	205
Leu Trp Lys His Leu Ser Leu Asn Val Phe Thr Arg Glu Phe Lys Cys		
210	215	220
Ile Ser Gly Gly Ile Arg Tyr Glu Cys Val Leu Ile His		
225	230	235

&lt;210&gt; 6869

&lt;211&gt; 206

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6869

Gly Ser Thr Ile Lys Glu Lys Lys Gln Gly Asn Ile Arg Arg Ile		
1 5 10 15		
Ser Leu Lys Asn Cys Asn Phe Ala Ala Gln Phe Lys Ile Ile Ala Met		
20 25 30		
Glu Phe Thr Gly Lys Ile Ile Ala Ile Leu Gln Pro Arg Gly Gly Val		
35 40 45		
Ser Lys Thr Ser Gly Asn Glu Trp Lys Ala Gln Glu Tyr Val Ile Glu		
50 55 60		
Asn His Asp Gln Tyr Pro Lys Lys Met Cys Phe Asp Ile Phe Gly Ala		
65 70 75 80		
Asp Lys Ile Glu Gln Phe Asn Ile Gln Met Gly Glu Glu Leu Thr Val		
85 90 95		
Ser Phe Asp Ile Glu Ala Arg Gln Trp Gln Asp Arg Trp Phe Asn Ser		
100 105 110		
Ile Arg Ala Trp Lys Val Glu Arg Val Gly Ala Gly Ala Pro Met Gly		
115 120 125		
Ser Gly Ser Ser Gly Ser Ser Gly Thr Leu Phe Gly His Pro Asn		
130 135 140		
Leu Leu Pro Val Thr Gln Lys Thr Ile Cys Leu Ser Lys Gln Thr Ser		
145 150 155 160		
Phe Gly Lys Arg His Lys Thr Pro Lys Val Leu Gln Asp Leu Ser Gly		
165 170 175		
Phe Tyr Thr Phe Tyr Gly Val Arg Lys Cys His Gln Thr His Leu Cys		
180 185 190		
Lys Ser Ile Pro His Trp Asp Ile Gln Phe Arg Pro Tyr Lys		
195 200 205		

&lt;210&gt; 6870

&lt;211&gt; 409

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6870

Arg Thr Lys Met Leu Ser Ile Leu Ile Asn Ala Tyr Ala Cys Ser Pro		
1 5 10 15		
Asn Met Gly Ser Glu Pro Gly Met Ala Trp Asn Trp Cys Ile Asn Leu		
20 25 30		
Ala Arg His Cys Glu Leu Tyr Ile Ile Thr Glu Gly Glu Phe Arg Asp		
35 40 45		
Lys Ile Glu Ala Val Leu Pro Thr Leu Pro Gln Gly Lys His Met His		
50 55 60		
Phe Tyr Tyr Asn Pro Val Ser Glu Glu Val Arg Lys Met Cys Trp Asn		
65 70 75 80		

Gln Gly Asp Trp Arg Phe Tyr Lys His Tyr Lys Lys Trp Gln Trp Lys  
       85                    90                    95  
 Thr Tyr Glu Met Ala Gln Glu Ile Ile Val Lys Gln His Ile Asp Ile  
       100                   105                   110  
 Val His Gln Leu Asn Met Ile Gly Phe Arg Glu Pro Gly Tyr Leu Trp  
       115                   120                   125  
 Lys Leu Asp Lys Pro Phe Val Trp Gly Pro Val Asp Ala Lys Glu Lys  
       130                   135                   140  
 Phe Pro Thr Ala Tyr Leu Arg Asp Ala Gly Ile Lys Ala Asn Leu Phe  
       145                   150                   155                   160  
 Ile Arg Leu Lys Asn His Ile Thr Gly Leu Gln Leu Arg Tyr Ser Gln  
       165                   170                   175  
 Arg Val Lys Lys Ala Val Lys Lys Ala Ser Val Val Thr Ser Ala Ser  
       180                   185                   190  
 Ser Glu Ser Gln Lys Ser Phe Lys Lys Tyr Phe His Ile Asp Ala Pro  
       195                   200                   205  
 Leu Leu Asn Glu Thr Gly Cys Tyr Pro Lys Thr Thr Ile Ile Asn Ser  
       210                   215                   220  
 Thr Lys Glu Lys Gly Asp Leu Asn Leu Leu Trp Val Gly Lys Leu Asp  
       225                   230                   235                   240  
 Phe Arg Lys Gln Leu Pro Leu Ala Ile Lys Ala Ile Ala Arg Leu Ala  
       245                   250                   255  
 Asn Pro His Ile Lys Leu His Ile Val Gly Gly Asn Asn Asn Ser Tyr  
       260                   265                   270  
 Gln Lys Leu Ala Met Glu Leu Asn Ile Ser His Gln Cys Ile Trp His  
       275                   280                   285  
 Gly Val Ile Ser His Asn Glu Val Gln Glu Leu Met Gln Lys Val Asp  
       290                   295                   300  
 Ile Phe Phe Thr Ser Ile Ala Glu Gly Thr Pro His Val Val Leu  
       305                   310                   315                   320  
 Glu Ala Ile Asn Asn Leu Pro Val Ile Cys Phe Asp Ile Cys Gly  
       325                   330                   335  
 His Gly Asp Ser Ile Asn Glu Gln Val Gly Ile Lys Ile Pro Leu Ser  
       340                   345                   350  
 Thr Pro Gln Gln Ser Ile Asn Asp Phe Ala Glu Lys Ile Thr Tyr Leu  
       355                   360                   365  
 Phe Asn His Arg Asp Val Leu Lys Gln Met Ser Glu Asn Cys Arg Val  
       370                   375                   380  
 Arg Gln Glu Glu Leu Ser Trp Asp Asn Lys Ala Lys Gln Met Val Ser  
       385                   390                   395                   400  
 Leu Tyr Lys Lys Val Leu Ser Gln Glu  
       405

&lt;210&gt; 6871

&lt;211&gt; 255

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6871

Leu Lys Glu Met Lys Ile Arg Ile Leu Gly Ser Gly Thr Ser Thr Gly  
 1                    5                    10                    15  
 Val Pro Glu Ile Gly Cys Thr Cys Ala Val Cys Thr Ser Lys Asp Pro  
       20                   25                   30  
 Arg Asp Cys Arg Leu Arg Thr Ser Ala Leu Val Tyr Thr Asp Asp Thr  
       35                   40                   45  
 Thr Ile Leu Leu Asp Cys Gly Pro Asp Phe Arg Glu Gln Met Leu Arg  
       50                   55                   60  
 Val Pro Phe Gly Lys Ile Asp Ala Val Leu Ile Ser His Glu His Tyr  
       65                   70                   75                   80

Asp His Val Gly Gly Leu Asp Asp Leu Arg Pro Phe Cys Arg Phe Gly  
           85                   90                   95  
 Glu Val Pro Ile Tyr Ala Glu Thr Tyr Thr Ala Glu Arg Leu Arg Ser  
           100               105                   110  
 Arg Met Pro Tyr Cys Phe Val Glu His Ser Tyr Pro Gly Val Pro Asn  
           115               120                   125  
 Ile Pro Leu Arg Glu Ile Glu Pro Asn Arg Pro Phe Leu Val Asn His  
           130               135                   140  
 Thr Glu Val Leu Pro Leu Arg Val Met His Gly Lys Leu Pro Ile Leu  
           145               150                   155                   160  
 Gly Tyr Arg Ile Gly Lys Leu Gly Tyr Ile Thr Asp Met Leu Thr Met  
           165               170                   175  
 Pro Asp Glu Ser Phe Glu Gln Leu Gln Gly Ile Glu Val Leu Val Met  
           180               185                   190  
 Asn Ala Leu Arg Ile Ala Pro His Asn Thr His Gln Ser Leu Ser Glu  
           195               200                   205  
 Ala Leu Glu Ala Val Lys Arg Ile Gly Ala Lys Glu Asn Leu Leu Ile  
           210               215                   220  
 His Met Ser His His Ile Gly Leu Gln Ala Asp Val Glu Lys Gln Leu  
           225               230                   235                   240  
 Pro Pro His Val His Phe Ala Phe Asp Gly Leu Glu Leu Glu Cys  
           245               250                   255

&lt;210&gt; 6872

&lt;211&gt; 620

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6872

Ser Tyr Arg Ile Ile Pro Lys Thr Glu Met Lys Arg Glu Val Lys Phe  
 1               5                   10                   15  
 Ser Leu Val Phe Arg Asp Met Trp Gln Ser Ala Gly Lys Tyr Val Pro  
           20               25                   30  
 Arg Val Asp Gln Leu Val Lys Val Ala Pro Ala Ile Val Glu Met Gly  
           35               40                   45  
 Cys Phe Ala Arg Val Glu Thr Asn Gly Gly Phe Glu Gln Val Asn  
           50               55                   60  
 Leu Leu Phe Gly Glu Asn Pro Asn Lys Ser Val Arg Ala Trp Thr Lys  
           65               70                   75                   80  
 Pro Phe His Glu Ala Gly Ile Gln Thr His Met Leu Asp Arg Ala Leu  
           85               90                   95  
 Asn Gly Leu Arg Met Ser Pro Val Pro Ala Asp Val Arg Lys Leu Phe  
           100               105                   110  
 Tyr Lys Val Lys Lys Ala Gln Gly Thr Asp Ile Thr Arg Thr Phe Cys  
           115               120                   125  
 Gly Leu Asn Asp Val Arg Asn Ile Ala Pro Ser Ile Thr Tyr Ala Lys  
           130               135                   140  
 Asp Ala Gly Met Ile Ser Gln Cys Ser Leu Cys Ile Thr His Ser Pro  
           145               150                   155                   160  
 Ile His Thr Val Glu Tyr Tyr Thr Asn Met Ala Leu Glu Leu Ile Lys  
           165               170                   175  
 Leu Gly Ala Asp Glu Ile Cys Ile Lys Asp Met Ala Gly Ile Gly Arg  
           180               185                   190  
 Pro Val Ser Leu Gly Lys Ile Val Ala Asn Ile Lys Ala Val His Pro  
           195               200                   205  
 Asp Ile Pro Ile Gln Tyr His Ser His Ala Gly Pro Gly Phe Asn Met  
           210               215                   220  
 Ala Ser Ile Leu Glu Val Cys Glu Ala Gly Cys Asp Tyr Val Asp Val  
           225               230                   235                   240

Gly Met Glu Pro Leu Ser Trp Gly Thr Gly His Ala Asp Leu Leu Ser  
 245 250 255  
 Val Gln Ala Met Leu Lys Asp Ala Gly Phe Gln Val Pro Glu Ile Asn  
 260 265 270  
 Met Glu Ala Tyr Met Lys Val Arg Ala Leu Ile Gln Glu Phe Met Asp  
 275 280 285  
 Asp Phe Leu Gly Leu Tyr Ile Ser Pro Lys Asn Arg Leu Met Asn Ser  
 290 295 300  
 Leu Leu Ile Ala Pro Gly Leu Pro Gly Gly Met Met Gly Ser Leu Met  
 305 310 315 320  
 Ala Asp Leu Glu Thr Asn Leu Glu Ser Ile Asn Lys Tyr Lys Ala Lys  
 325 330 335  
 His Asn Leu Pro Phe Met Thr Gln Asp Gln Leu Leu Ile Lys Leu Phe  
 340 345 350  
 Asn Glu Val Ala Tyr Val Trp Pro Arg Val Gly Tyr Pro Pro Leu Val  
 355 360 365  
 Thr Pro Phe Ser Gln Tyr Val Lys Asn Leu Ser Met Met Asn Val Ile  
 370 375 380  
 Ala Met Glu Lys Gly Lys Glu Arg Trp Gly Met Ile Ala Asp Asp Ile  
 385 390 395 400  
 Trp Asp Met Ile Leu Gly Lys Ala Gly Arg Leu Pro Gly Lys Leu Ala  
 405 410 415  
 Pro Glu Ile Ile Glu Lys Ala Glu Arg Glu Gly Arg Lys Phe Phe Glu  
 420 425 430  
 Gly Asn Pro Gln Asp Asn Tyr Pro Asp Asp Leu Glu Lys Tyr Arg Lys  
 435 440 445  
 Leu Met Lys Glu Lys Lys Trp Glu Thr Gly Glu Asp Asp Glu Glu Leu  
 450 455 460  
 Phe Glu Tyr Ala Met His Pro Ala Gln Tyr Glu Ala Tyr Lys Ser Gly  
 465 470 475 480  
 Lys Ala Lys Glu Asp Val Leu Ala Asp Val Ala Lys Arg Arg Ala Glu  
 485 490 495  
 Lys Glu Gln Val Pro Thr Glu Glu Ala Lys Pro Lys Thr Leu Thr Val  
 500 505 510  
 Gln Val Asp Gly Gln Ala Tyr Arg Val Thr Val Ala Tyr Gly Asp Thr  
 515 520 525  
 Glu Leu Pro Val Ala Pro Ala Ser Gln Pro Ser Ala Ala Ala Gly Glu  
 530 535 540  
 Gly Lys Glu Val Leu Ser Pro Leu Glu Gly Lys Phe Phe Leu Val Lys  
 545 550 555 560  
 Asn Ala Gln Glu Thr Pro Leu Lys Val Gly Asp Ala Val Lys Glu Gly  
 565 570 575  
 Asp Val Leu Cys Tyr Val Glu Ala Met Lys Thr Tyr Asn Ala Ile Arg  
 580 585 590  
 Ala Glu Phe Gly Gly Thr Val Thr Ala Ile Ser Ala Asn Pro Gly Asp  
 595 600 605  
 Thr Val Ser Glu Asp Asp Val Leu Met Lys Ile Gly  
 610 615 620

<210> 6873

<211> 265

<212> PRT

<213> B.fragilis

<400> 6873

```

Trp Asp Arg Met Pro Ile Asn Ser Pro Gln Ser Ala Thr Leu Gly Asp
1          5           10          15
Asn Ala Val Arg Val Glu Met Glu Ala Gln Ile Leu Leu Gly Gly Ile
20         25          30

```

Asn Arg Ser Val Phe Ala Thr Ala Asp Asp Glu Leu Arg Pro Val Met  
 35 40 45  
 Asn Gly Ile Tyr Phe Asp Ile Thr Thr Glu Asp Ile Thr Met Val Ala  
 50 55 60  
 Ser Asp Gly His Lys Leu Val Arg Cys Lys Thr Leu Ala Ala Arg Gly  
 65 70 75 80  
 Asn Glu Arg Ala Ala Phe Ile Leu Pro Lys Lys Pro Ala Thr Leu Leu  
 85 90 95  
 Lys Asn Leu Leu Pro Lys Glu Ser Gly Met Val Val Ile Glu Phe Asp  
 100 105 110  
 Glu Arg Asn Ala Val Phe Thr Leu Glu Ser Tyr Arg Met Val Cys Arg  
 115 120 125  
 Leu Ile Glu Gly Arg Tyr Pro Asn Tyr Asn Ser Val Ile Pro Gln Asn  
 130 135 140  
 Asn Pro His Lys Val Thr Val Asp Arg Met Gln Leu Met Gly Ala Leu  
 145 150 155 160  
 Arg Arg Val Ser Ile Phe Ser Ser Gln Ala Ser Ser Leu Ile Lys Leu  
 165 170 175  
 Arg Met Gln Glu Asn Gln Ile Val Val Ser Ala Gln Asp Ile Asp Phe  
 180 185 190  
 Ser Thr Ser Ala Glu Glu Thr Gln Val Cys Gln Tyr Ala Gly Ala Ala  
 195 200 205  
 Met Ser Ile Gly Phe Lys Ser Thr Phe Leu Ile Asp Ile Leu Asn Asn  
 210 215 220  
 Ile Ser Ala Asp Glu Val Val Ile Glu Leu Ala Asp Pro Ser Arg Ala  
 225 230 235 240  
 Gly Val Ile Ile Pro Val Glu Gln Glu Glu Asn Glu Asp Leu Leu Met  
 245 250 255  
 Leu Leu Met Pro Met Met Leu Asn Asp  
 260 265

&lt;210&gt; 6874

&lt;211&gt; 282

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6874

Asn Arg Leu Ile Met Glu Lys Asn Ile Ser Gln Glu Lys Arg Ile Glu  
 1 5 10 15  
 Glu Leu Glu Ala Arg Leu Lys Glu Gln Glu Lys Leu Gly Ser Leu Gly  
 20 25 30  
 Leu Leu Ser Ala Gly Ile Ala His Glu Ile Gln Asn Pro Leu Asn Phe  
 35 40 45  
 Val Ile Asn Phe Ser Lys Leu Ser Gly Gln Leu Ala Asp Leu Ala  
 50 55 60  
 Asp Arg Val Asp Glu Ala Lys Ala Arg Ile Pro Glu Ala Glu Leu Glu  
 65 70 75 80  
 Asp Ile Lys Asp Ile Leu Ser Gly Leu Arg Glu Asn Val Asp Lys Ile  
 85 90 95  
 Lys Glu His Gly Asp Arg Ala Ile Ser Ile Ile Arg Gly Ile Leu Leu  
 100 105 110  
 Tyr Ser Arg Gly Lys Glu Asp Glu Phe Met Pro Thr Gln Ile Gln Lys  
 115 120 125  
 Leu Thr Lys Glu Tyr Val Trp Leu Ala Tyr His Ala Met Arg Ala Asn  
 130 135 140  
 Tyr Lys Asn Phe Asn Ile Ala Ile Arg Glu Asp Tyr Ala Lys Asp Ile  
 145 150 155 160  
 Pro Ser Ile Arg Leu Ile Pro Gln Asp Phe Ser Arg Ala Val Leu Asn  
 165 170 175

Val Met Asn Asn Ala Cys Tyr Ala Val Trp Lys Lys Trp Gln Asn Ala  
     180                     185                     190  
 Pro Glu Gly Tyr Ser Pro Glu Ile Met Val Thr Leu Glu Lys Leu Asp  
     195                     200                     205  
 Lys Arg Val Val Leu Ser Ile Arg Asp Asn Gly Glu Gly Met Ser Pro  
     210                     215                     220  
 Glu Val Lys Arg Lys Leu Phe Asp Ser Phe Phe Thr Thr Lys Pro Val  
     225                     230                     235                     240  
 Gly Gln Gly Thr Gly Leu Gly Met Ala Ile Val Arg Asp Ile Ile Glu  
     245                     250                     255  
 Asn Lys His His Gly Lys Val Leu Phe Asp Ser Val Leu His Glu Tyr  
     260                     265                     270  
 Thr Cys Phe Arg Phe Ile Ile Pro Ile Ala  
     275                     280

&lt;210&gt; 6875

&lt;211&gt; 440

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6875

Thr Lys Gln Ile Asn Trp Tyr Val Ala Thr Leu Ile Ser Ser Leu Phe  
 1                     5                     10                     15  
 Ala Ile Lys Leu Lys Lys Tyr Met Arg Thr Cys Ser Pro Arg Leu Ala  
     20                     25                     30  
 Lys Glu Lys Tyr Cys Thr Gly Cys Met Ala Cys Ser Asp Ala Cys Thr  
     35                     40                     45  
 His Asp Ala Ile Lys Ile Val Glu Lys Asn Cys Met Pro Phe Val Lys  
     50                     55                     60  
 Val Asp Thr His Lys Cys Met Asn Cys His Leu Cys Glu Lys Ala Cys  
     65                     70                     75                     80  
 Pro Ile Ile Thr Pro Val Lys Lys Asn Arg Ala Glu Lys Met Asn Val  
     85                     90                     95  
 Tyr Gly Gly Trp Ala Asn Asp Glu Gln Thr Arg Ile Asp Ala Ala Ser  
     100                     105                     110  
 Gly Gly Gly Phe Ser Gly Leu Ala Gln Ser Phe Phe His Leu His Lys  
     115                     120                     125  
 Glu Asp Lys Val Ala Val Ile Gly Ala Thr Leu Ala Asn Asn Arg Val  
     130                     135                     140  
 Tyr His Gln Leu Ile Glu Gln Glu Lys Asp Ile Val Leu Leu Thr Asn  
     145                     150                     155                     160  
 Ser Lys Tyr Ile Gln Ser Asp Thr Gln Gly Ile Tyr Lys Glu Val Ile  
     165                     170                     175  
 Glu Arg Leu Lys Thr Gly Tyr Trp Ile Leu Phe Ser Gly Cys Pro Cys  
     180                     185                     190  
 Gln Ile Ala Gly Leu Tyr Gly Phe Leu Gly Lys Lys Arg Asp Ser Glu  
     195                     200                     205  
 Arg Leu Ile Thr Ile Glu Val Val Cys His Gly Ile Ala Ser Tyr Glu  
     210                     215                     220  
 Ala Leu Asp Leu His Leu Lys Tyr Tyr Asn Ser Ser Arg Ile Tyr Arg  
     225                     230                     235                     240  
 Phe Arg Asp Lys Arg His Gly Thr Gln Asp Trp Lys Gln Ser Gln Cys  
     245                     250                     255  
 Thr Thr Ile Glu Gln Asn Gly Glu Glu Ile Lys Leu Lys Arg Lys Asp  
     260                     265                     270  
 Asp Met Phe Tyr Ala Ile Tyr Ala Gly Trp Met Leu Asp Arg Lys Ser  
     275                     280                     285  
 Cys Ser Asn Cys Gln Phe Ala Glu Ile Asn Arg Val Ala Asp Ile Thr  
     290                     295                     300

Ile Ala Asp Phe Trp Gly Leu Gln Val Pro Asp Tyr Tyr Lys Gln Gly  
 305 310 315 320  
 Val Ser Leu Ile Ile Ala Asn Asn Asn Lys Ala Asp Thr Met Ile Lys  
 325 330 335  
 Ala Ala Asp Ala Ile Tyr Thr Phe Lys Glu Ser Leu Arg Thr Ala Ile  
 340 345 350  
 Asn Gly Asn Pro His Leu Phe Thr Gly Tyr Lys Leu Ile Gln Phe His  
 355 360 365  
 Pro Ile Val Met Trp Pro Asp Phe Phe Arg Lys Ile Leu Pro Lys Arg  
 370 375 380  
 Ile Arg Phe Lys Thr Leu Thr Asn Arg Met Pro Tyr Lys Leu Phe Trp  
 385 390 395 400  
 Ala Leu Tyr Lys Leu Gly Thr Ile Tyr Leu Val Lys Tyr Gln Lys Lys  
 405 410 415  
 Gln Leu Ile Ser Lys Phe Gln Lys Asp Asp Asn Leu Leu Lys Leu Leu  
 420 425 430  
 Asn Asn Ala Asn Arg Gly Gly  
 435 440

&lt;210&gt; 6876

&lt;211&gt; 332

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6876

Pro Pro Lys Met Asn Asn Thr Asn Pro Leu Val Ser Ile Ile Val Pro  
 1 5 10 15  
 Val Tyr Lys Val Glu Arg Tyr Ile His Arg Ser Ile Asp Ser Leu Leu  
 20 25 30  
 Arg Gln Thr Tyr Asn Asn Leu Glu Ile Ile Leu Val Asp Asp Gly Ser  
 35 40 45  
 Pro Asp Asn Cys Pro Phe Ile Cys Asp Lys Tyr Ala Met Gln Asp Asn  
 50 55 60  
 Arg Ile Arg Val Ile His Lys Ser Asn Gly Gly Leu Ser Asp Ala Arg  
 65 70 75 80  
 Asn Ala Ala Leu Asn Val Met Thr Gly Gln Tyr Val Thr Phe Val Asp  
 85 90 95  
 Ser Asp Asp Tyr Ile Ala Asp Asn Met Ile Glu Lys Phe Ile Glu Thr  
 100 105 110  
 Val Lys Leu Tyr Gln Cys Asn Met Val Val Ala Gly Met Asn Ile Ile  
 115 120 125  
 Asp Lys Asn Asn Gln Ile Tyr Asp Tyr Arg Arg Thr Leu Thr Ser Thr  
 130 135 140  
 Leu Ser Thr Gly Ile Asp Ile Thr Arg Lys Leu Leu Lys Asp Val Phe  
 145 150 155 160  
 Pro Phe Asn Phe Val Cys Ala Lys Ile Phe Glu Ser Ser Leu Phe Glu  
 165 170 175  
 Glu Ile Arg Phe Pro Val Gly Arg His Tyr Glu Asp Thr Ala Thr Thr  
 180 185 190  
 Tyr Lys Leu Thr His Lys Cys Glu Arg Ile Tyr Cys Ile Ala Asp Cys  
 195 200 205  
 Leu Tyr Phe Tyr Glu Leu Glu Arg Glu Gly Asn Ile Thr Ser Glu Leu  
 210 215 220  
 Asn Thr Ser Lys Ala Ile Lys Ser Tyr Ile Asp Gly Cys Leu Asn Ser  
 225 230 235 240  
 Gln Glu Gln Ile Phe Phe Cys Gln Lys His Lys Asp Phe Ser Asp Leu  
 245 250 255  
 Leu Pro Val Leu Thr Lys Arg Leu Gln Leu Trp Ala Leu Leu Ala Ile  
 260 265 270

Gln Ser Ala Ile Ser Leu Gly Tyr Lys Glu Tyr Met Phe Tyr Tyr His  
 275 280 285  
 Gln Ile Arg Ile Tyr Ile Arg Ser Leu Ser Tyr Thr Gln Arg Met Thr  
 290 295 300  
 His Leu Gln Ile Ala Leu Thr Phe Pro Ile Ile Tyr Tyr Ser Leu Tyr  
 305 310 315 320  
 Pro Leu Leu Ser Arg Leu Lys Lys Met Tyr Lys Asn  
 325 330

&lt;210&gt; 6877

&lt;211&gt; 78

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6877

Met Asn Asn Val Ala Glu His Ala Arg Glu Gln Lys Ala Gly Met Lys  
 1 5 10 15  
 Cys Pro Gln Cys Gly Ala Phe Ile Glu Thr Ser Ile Phe Glu Leu Leu  
 20 25 30  
 Thr Ser Asn Ala Leu Gln Cys Pro Ser Cys His Leu Arg Leu Asn Ile  
 35 40 45  
 Asp Arg Met Lys Ser Lys Ala Ala Phe Asp Ala Leu Arg Lys Val Gln  
 50 55 60  
 Asn Ala Gln Glu Asn Leu Glu Arg Lys Ser Lys Phe Asn Gly  
 65 70 75

&lt;210&gt; 6878

&lt;211&gt; 405

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6878

Ile Arg Tyr Val Ser Ile Tyr Gly Thr Ile Leu Tyr Leu Asn Ile Ser  
 1 5 10 15  
 Val Asn Val Ile Thr Leu Thr Ser Lys Tyr Asp Cys Cys Gly Cys Thr  
 20 25 30  
 Ala Cys Thr Ser Ala Cys Asn Arg Gly Ala Ile Ile Met Gln Glu Asp  
 35 40 45  
 Glu Gln Gly Phe Leu Tyr Pro His Ile Asn Thr Thr Gln Cys Ile Asp  
 50 55 60  
 Cys Gly Leu Cys Asn Lys Val Cys Pro Val Phe Arg Tyr Asp Val Ile  
 65 70 75 80  
 Ser Asn Lys Asn Val Asn Pro His Ile Leu Ala Leu His His His  
 85 90 95  
 Asn Glu Lys Thr Trp Ile Ser Ser Ser Gly Gly Val Phe Ala Ser  
 100 105 110  
 Leu Thr Asp Tyr Ala Leu Arg Gln Ala Gly Val Ile Phe Gly Ala Ile  
 115 120 125  
 Tyr Asp Asp Asn Phe Val Val Val His Arg Arg Ala Glu Thr Gln Glu  
 130 135 140  
 Asp Thr Leu Lys Phe Arg Gly Ser Lys Tyr Val Gln Ser Asn Leu Thr  
 145 150 155 160  
 Gly Ile Tyr Gln Gln Val Lys Phe Tyr Leu Gln Glu Gln Arg Phe Val  
 165 170 175  
 Leu Phe Ser Gly Thr Pro Cys Gln Val Glu Gly Leu Lys Gly Tyr Leu  
 180 185 190  
 Gln Arg Ser Tyr Asp Asn Leu Leu Thr Val Asp Ile Leu Cys His Gly  
 195 200 205  
 Val Pro Ser Pro Arg Val Phe His Asp Tyr Leu Asn Phe Ile Arg Gln

210	215	220
Asn Ser Asp Phe His	Phe Thr Gly Ile Phe Met	Lys Asp Lys Thr Phe
225	230	235
Gly Trp Gly Tyr Gln Asn Ser Arg Leu	Phe Phe Gly Lys Asn Ala Ser	240
245	250	255
Gln Phe Asn Thr Val Leu Ser Arg Leu	Trp Asn Asp Ile Phe Tyr Ser	260
260	265	270
His Leu Thr Thr Arg Pro Ser Cys	His Ala Cys Arg Phe Thr Asn Tyr	275
275	280	285
Leu Arg Pro Gly Asp Ile Thr Ile	Gly Asp Phe Trp Gly Ile Glu Lys	290
290	295	300
His His Pro Gln Phe Thr Asp Ser Arg Gly	Ile Ser Leu Ile Met Leu	305
305	310	315
Asn Asn Thr Lys Ala Glu Ile Val Trp	Asn His Ile Lys Asp Asp Phe	325
325	330	335
Asn Tyr Leu Glu Ser Asn Ile Lys	Glu Cys Ile Gln Pro Asn Leu Lys	340
340	345	350
Tyr Pro Val Pro Glu Pro Val Asn Lys	Ala Thr Phe Trp Gln Asp Tyr	355
355	360	365
Ala Ser Met Pro Phe Phe Gln Ile Met Asn Lys	Tyr Tyr Arg Ile Thr	370
370	375	380
His Gln Asp Leu Leu Lys Asn Arg Phe Tyr	Met Ile Leu Leu Thr Leu	385
385	390	395
Lys Lys Arg Phe Thr		400
405		

&lt;210&gt; 6879

&lt;211&gt; 307

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6879

Leu Ser Val Val Arg Asp Leu Leu Thr Val Pro Leu Lys Asn Ala Lys			
1	5	10	15
Leu Glu Ala Ala Gly Ala Gly Ala Ile Val Leu Lys Ser Leu Phe Glu			
20	25	30	
Glu Gln Ile Met Met Glu Ala Asp Arg Leu Arg Asn Pro Ser Tyr Tyr			
35	40	45	
Pro Glu Gly Ser Asp Tyr Leu Ala Glu Tyr Ile Arg Asn His Lys Leu			
50	55	60	
Thr Glu Tyr Leu Glu Leu Ile Lys Glu Ser Lys Lys Ile Cys Thr Ile			
65	70	75	80
Pro Val Ile Ala Ser Ile Asn Cys Tyr Thr Asp Ala Glu Trp Val Asp			
85	90	95	
Phe Ala Lys Gln Ile Glu Glu Ala Gly Ala Asp Ala Leu Glu Ile Asn			
100	105	110	
Ile Leu Ala Leu Gln Ser Asp Ile Gln Tyr Lys Tyr Gly Ser Phe Glu			
115	120	125	
Gln Arg His Ile Asp Ile Leu Ser His Ile Lys Lys Thr Ile Arg Ile			
130	135	140	
Pro Val Ile Met Lys Leu Gly Ser Asn Phe Thr Asn Pro Val Ala Leu			
145	150	155	160
Ile Asp Gln Leu Tyr Ala Asn Gly Ala Ala Ala Val Val Leu Phe Asn			
165	170	175	
Arg Phe Tyr Gln Pro Asp Ile Asp Val Glu Lys Met Glu His Thr Ser			
180	185	190	
Gly Asp Val Phe Ser Asn Ala Ser Asp Leu Ser Thr Thr Leu Arg Trp			
195	200	205	
Ile Gly Ile Ser Ser Ser Leu Val Ser Lys Ile Asp Tyr Ala Ala Ser			

210	215	220
Gly	Gly	Ile His Lys Pro Asp Gly Ile Val Lys Ala Ile Leu Ala Gly
225	230	235
Ala	Ser	Ala Ile Glu Ile Cys Ser Ala Ile Tyr Gln Asn Thr Asn Leu
		245
Phe	Val	Gly Glu Met Asn Arg Phe Leu Ser Ala Trp Met Glu Arg Lys
		260
Gly	Phe	Lys His Ile Ser Gln Phe Lys Gly Lys Leu Asn Ala Lys Asp
		275
Val	Glu	Gly Ile Asn Met Phe Glu Arg Thr Gln Phe Leu Lys Tyr Phe
		290
Ser	Glu	Lys
		295
		300

&lt;210&gt; 6880

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6880

Asn	Arg	Pro	Val	Tyr	Gln	Cys	Phe	Tyr	Glu	Ile	Thr	Tyr	Thr	Cys	Lys	
1																15
Val	Ile	Leu	Asn	Asp	Val	Lys	Tyr	Tyr	Gly	Val	Arg	Arg	Asp	Lys	Ser	
																30
Lys	Phe	His	Val	Leu	Asn	Tyr	Asn	Ile	Trp	Leu	Leu	Val	Tyr	Leu	Leu	
																45
Tyr	Glu	Ser	Lys	Glu	Met	Gln	Tyr	Met	Ile	Asp	Tyr	Ser				
																60

&lt;210&gt; 6881

&lt;211&gt; 120

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6881

Asn	Leu	Lys	Val	Leu	Tyr	Met	Gly	Lys	Asn	Arg	Asn	His	Tyr	Ser	Phe	
1																15
Phe	Leu	Tyr	Phe	Val	Phe	Ile	Ile	Phe	Val	Leu	Leu	Gly	Cys	Arg	Pro	
																30
Val	Arg	Val	Gln	Met	Pro	Asp	Gly	Met	Tyr	Gly	Arg	Trp	Lys	Ser	Ser	
																45
Ala	Gly	Arg	Pro	Asp	Ile	Thr	Leu	Gly	Thr	Asp	Ser	Ile	Gly	Ser	Phe	
																60
Ala	Ile	Val	His	His	Arg	Ile	Tyr	Asp	Gly	Lys	Ile	Cys	Pro	Val	Arg	
																80
Tyr	Pro	Leu	His	Leu	Asn	Ser	Pro	Thr	Lys	Gly	Tyr	Ile	Arg	Ala	Glu	
																95
Gly	Cys	Ile	Leu	Phe	Tyr	Tyr	Asp	Ser	Leu	Lys	Cys	Val	Leu	Tyr	Phe	
																110
Ser	Pro	Gly	Gly	Asp	Tyr	Thr	Gln									

&lt;210&gt; 6882

&lt;211&gt; 64

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6882

Ile Asn Glu Val Thr Asp Ser Leu Lys Lys Pro Leu Thr Ile Ile Thr

1	5	10	15
Met Ala Asp Leu Lys Thr Thr Phe Ala Gly Leu Thr Leu Lys Asn Pro			
20	25	30	
Val Ile Ile Ser Ser Ser Gly Leu Thr Asn Ser Ala Ala Lys Lys Arg			
35	40	45	
Lys Ala Gly Ser Cys Arg Cys Arg Ser His Cys Pro Glu Ile Thr Ile			
50	55	60	

&lt;210&gt; 6883

&lt;211&gt; 371

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6883

Ala Ser Ile Phe Pro Lys Asp Ile Phe Leu Val Met Lys Val Ser Ile			
1	5	10	15
Ile Val Pro Cys Tyr Ser Val Ala Ser Lys Leu Pro Arg Cys Val His			
20	25	30	
Asn Leu Leu Ala Gln Thr Phe Thr Asp Trp Glu Leu Ile Leu Ile Asp			
35	40	45	
Asp Gly Ser Thr Asp Asn Thr Trp Asp Ile Cys Asn Ser Phe Thr Lys			
50	55	60	
Asn Asn Ala His Ile His Ala Val His Lys Glu Asn Gly Gly Val Ser			
65	70	75	80
Ser Ala Arg Asn Thr Gly Ile Glu Ile Ala Lys Gly Glu Phe Ile Thr			
85	90	95	
Phe Ile Asp Ser Asp Asp Tyr Val Lys Pro Asp Tyr Leu Gln Lys Leu			
100	105	110	
Val Glu Gly Gln Glu Ala Asp Leu Val Leu Cys Gly Phe Arg Ser Ser			
115	120	125	
Thr Gly Ile Asp Phe Thr Pro Glu Pro Gln Tyr Leu Ile Gly Asp Asp			
130	135	140	
Leu Ser Lys Asn Ile Gln Ala Ile Val Glu Asn Asp Tyr Leu Leu Tyr			
145	150	155	160
Ser Pro Trp Cys Lys Leu Phe Arg Arg Asp Ile Ile Gln Lys His Gln			
165	170	175	
His Arg Phe Asp Pro Glu Ile Arg Leu Gly Glu Asp Thr Ile Phe Cys			
180	185	190	
Tyr Lys Tyr Leu Leu Tyr Cys Ser Ser Ile Lys Val Val Ala Ser Asn			
195	200	205	
Ser Tyr Phe Tyr Asp Gly Val Trp Gly Gly Tyr Lys Lys Tyr Val Leu			
210	215	220	
Thr Arg Gln Glu Val Glu Tyr Leu Asp Lys Ala Glu Ile Thr Thr Leu			
225	230	235	240
His Asp Ile Asn Gln His Phe Asn Cys Arg Ile Asp Leu Thr Tyr Arg			
245	250	255	
Gly Tyr His Val Ala Met Leu Lys Gly Leu Tyr Glu Lys Phe Arg Asp			
260	265	270	
Tyr Asp Thr Phe Glu Met Tyr Thr Arg Thr His Asp Val Leu Pro Pro			
275	280	285	
Glu His Phe Phe Ala Asn His Lys Leu Ser Tyr Ile Phe Trp Gly Ile			
290	295	300	
Val Glu Leu Glu Thr Leu Tyr Val Asp Lys Glu Tyr Cys Ala Gly Lys			
305	310	315	320
Leu Phe Met Gln Arg Leu His His Phe Phe Thr Ile Pro Thr Asn Gln			
325	330	335	
Leu Leu Ser Tyr Ser Tyr Lys Met Arg Leu Ile His Tyr Leu Val Lys			
340	345	350	
Ser Lys His Tyr Thr Met Ala His Val Leu Ile Phe Leu Ser Ile			

355  
Leu Lys His  
370

360

365

<210> 6884  
<211> 465  
<212> PRT  
<213> B.fragilis

<400> 6884

Leu	Gln	Gln	Phe	Ile	Thr	Val	Val	Val	Asn	Trp	Leu	Phe	Asp	Cys	Lys
1						5					10				15
Tyr	Gln	His	Leu	Asn	Leu	Arg	Ile	Met	Gly	Thr	Lys	Lys	Asn	Phe	Val
						20			25		30				
Leu	Asp	Thr	Asn	Val	Ile	Leu	His	Asp	Tyr	Asn	Cys	Leu	Lys	Asn	Phe
						35			40		45				
Gln	Glu	Asn	Asp	Ile	Tyr	Leu	Pro	Ile	Val	Val	Leu	Glu	Glu	Leu	Asp
						50			55		60				
Lys	Phe	Lys	Lys	Gly	Asn	Glu	Gln	Ile	Asn	Tyr	Asn	Ala	Arg	Glu	Phe
						65			70		75				80
Val	Arg	Glu	Leu	Asp	Leu	Ile	Thr	Asp	Asp	Ser	Leu	Phe	Thr	His	Gly
						85			90		95				
Ala	Pro	Leu	Gly	Glu	Gly	Leu	Gly	Lys	Leu	Phe	Ile	Val	Thr	Gly	Asp
						100			105		110				
Ser	Glu	Ala	Pro	Lys	Val	His	Glu	Ser	Phe	Pro	Ala	Arg	Lys	Pro	Asp
						115			120		125				
His	Gln	Ile	Leu	Ala	Val	Ala	Glu	Tyr	Leu	Ala	Arg	Lys	Tyr	Pro	Lys
						130			135		140				
Met	Lys	Asn	Ile	Leu	Val	Thr	Lys	Asp	Val	Asn	Leu	Arg	Met	Lys	Ala
						145			150		155				160
Arg	Ser	Ile	Gly	Ile	Leu	Cys	Glu	Asp	Tyr	Ile	Thr	Asp	Lys	Val	Val
						165			170		175				
Asn	Val	Asp	Ile	Phe	Glu	Lys	Ser	Asn	Glu	Val	Phe	Glu	Asn	Ile	Glu
						180			185		190				
Pro	Asp	Leu	Ile	Asp	Arg	Ile	Tyr	Ser	Ser	Arg	Glu	Gly	Leu	Asp	Ile
						195			200		205				
Ser	Glu	Phe	Asp	Phe	Lys	Asp	Ile	Ile	Arg	Pro	Asn	Glu	Cys	Phe	Ile
						210			215		220				
Leu	Lys	Ser	Asp	Arg	Ser	Ser	Val	Leu	Ala	Arg	Tyr	Asn	Pro	Phe	Thr
						225			230		235				240
His	Thr	Val	Cys	Arg	Val	Asn	Lys	Thr	Lys	Asn	Tyr	Gly	Ile	Glu	Pro
						245			250		255				
Arg	Asn	Ala	Glu	Gln	Ser	Phe	Ala	Phe	Glu	Ile	Leu	Asn	Asp	Pro	Asp
						260			265		270				
Ile	Lys	Leu	Val	Ala	Leu	Thr	Gly	Lys	Ala	Gly	Thr	Gly	Lys	Thr	Leu
						275			280		285				
Leu	Ala	Leu	Ala	Ala	Ala	Leu	Gly	Lys	Leu	Thr	Glu	Tyr	Lys	Gln	Ile
						290			295		300				
Leu	Leu	Ala	Arg	Pro	Ile	Val	Ala	Leu	Ser	Asn	Lys	Asp	Leu	Gly	Phe
						305			310		315				320
Leu	Pro	Gly	Asp	Ala	Thr	Glu	Lys	Val	Ala	Pro	Tyr	Met	Gln	Pro	Leu
						325			330		335				
Phe	Asp	Asn	Leu	Asn	Val	Ile	Lys	Arg	Gln	Phe	Ala	Ser	Asn	Ser	Thr
						340			345		350				
Glu	Val	Lys	Arg	Leu	Glu	Asp	Met	Gln	Lys	Ser	Glu	Gln	Leu	Val	Ile
						355			360		365				
Glu	Ala	Leu	Ala	Phe	Ile	Arg	Gly	Arg	Ser	Leu	Ser	Glu	Thr	Tyr	Cys
						370			375		380				
Ile	Ile	Asp	Glu	Ala	Gln	Asn	Leu	Thr	Pro	His	Glu	Ile	Lys	Thr	Ile

385	390	395	400
Ile Thr Arg Ala Gly Glu Gly Thr Lys Met Val Phe Thr Gly Asp Ile			
405		410	415
Gln Gln Ile Asp Gln Pro Tyr Leu Asp Ser Gln Ser Asn Gly Leu Val			
420		425	430
Tyr Met Ile Asp Arg Met Lys Asp Gln Asn Leu Phe Ala His Val Asn			
435		440	445
Leu Val Lys Gly Glu Arg Ser Glu Leu Ser Glu Leu Ala Ser Asn Leu			
450		455	460
Met			
465			

&lt;210&gt; 6885

&lt;211&gt; 70

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6885

Pro Gln Phe Ser Asp Pro Ala Lys Pro Gln Phe Tyr Lys Pro Pro Leu			
1	5	10	15
Ile His Gln Pro Arg Val Lys Gly Gln Pro Tyr Phe Leu Arg Ser Ser			
20		25	30
Arg Gln Thr Leu Thr Thr Cys Tyr Leu Gly Pro Ile Asn Asn Asn Leu			
35		40	45
Ser Ser Asp Asn Arg Cys Trp His Leu Ser His Asn Trp Lys Thr Thr			
50		55	60
Phe Pro Lys Pro Leu Gly			
65		70	

&lt;210&gt; 6886

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6886

Ser Trp Leu Ser Ser Pro Gln Ser Pro Tyr Ser Val Ser Ser Phe Gly			
1	5	10	15
Tyr Ser Pro Phe Asn Leu Thr Asp Ser Asp Met Lys Thr Thr Asp His			
20		25	30
Phe Lys Arg Thr Ile Gln Met Tyr Leu Glu Gln Arg Ala Ala Glu Asp			
35		40	45
Ala Leu Phe Ala Lys Asn Tyr Arg Asn Pro Ala Lys Asn Ile Asp Asp			
50		55	60
Cys Val Thr Tyr Ile Leu Asn Tyr Val Gln Lys Ser Gly Cys Asn Gly			
65		70	75
Phe Thr Asp Gly Glu Ile Tyr Gly Gln Ala Val His Tyr Tyr Asp Glu			
85		90	95
Asn Glu Ile Glu Val Gly Lys Pro Ile Gln Cys Gln Ile Ala Val Asn			
100		105	110
His Val Val Glu Leu Thr Ala Glu Glu Lys Ala Glu Ala Arg Gln Asn			
115		120	125
Ala Ile Arg Gln Tyr Gln Asp Gly Leu Met Arg Glu Met Gln Asn Arg			
130		135	140
Asn Lys Pro Arg Thr Ala Thr Lys Ala Thr Val Gln Glu Val Gln Gln			
145		150	155
Pro Ser Leu Phe Asp Leu Gly Leu			
165			

&lt;210&gt; 6887

<211> 214  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6887

Val	Glu	Thr	Ser	Asn	Met	Gly	Lys	Gln	Lys	Phe	Tyr	Val	Val	Trp	Asp
1					5				10					15	
Gly	Val	Thr	Pro	Gly	Ile	Tyr	Thr	Ser	Trp	Thr	Glu	Cys	Gln	Leu	Gln
					20				25					30	
Val	Lys	Gly	Tyr	Asp	Ser	Ala	Lys	Tyr	Lys	Ser	Phe	Asp	Asn	Arg	Glu
					35				40				45		
Glu	Ala	Glu	Arg	Ala	Phe	Ala	Ala	Ser	Pro	Tyr	Ala	Tyr	Ile	Gly	Lys
					50				55				60		
Asn	Ala	Lys	Lys	Ile	Thr	Gly	Pro	Ser	Thr	Glu	Met	Leu	Pro	Ala	
					65				70			75		80	
Ala	Val	Ile	Glu	Asn	Ser	Leu	Ala	Val	Asp	Ala	Ala	Cys	Ser	Gly	Asn
					85				90				95		
Pro	Gly	Pro	Met	Glu	Tyr	Arg	Gly	Val	His	Val	Ala	Ser	Arg	Gln	Glu
					100				105				110		
Ile	Phe	His	Phe	Gly	Pro	Met	Lys	Gly	Thr	Asn	Asn	Ile	Gly	Glu	Phe
					115				120				125		
Leu	Ala	Leu	Val	His	Gly	Leu	Ala	Leu	Leu	Lys	Gln	Lys	Gly	Phe	Asp
					130				135			140			
Met	Pro	Ile	Tyr	Ser	Asp	Ser	Ala	Asn	Ala	Ile	Ser	Trp	Val	Lys	Gln
					145				150			155		160	
Lys	Lys	Cys	Lys	Thr	Lys	Leu	Ser	Arg	Thr	Ala	Glu	Thr	Glu	Ala	Leu
					165				170			175			
Phe	Val	Leu	Ile	Glu	Arg	Ala	Glu	Lys	Trp	Leu	Lys	Glu	Asn	Lys	Tyr
					180				185			190			
Thr	Thr	Pro	Ile	Leu	Lys	Trp	Glu	Thr	Arg	Glu	Trp	Gly	Glu	Ile	Pro
					195				200			205			
Ala	Asp	Phe	Gly	Arg	Lys										
					210										

&lt;210&gt; 6888

<211> 211  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6888

Lys	Asn	Gln	Ser	Asn	Lys	Glu	Arg	Ser	Ile	Phe	Met	Lys	Lys	Ser	Phe
1					5				10				15		
Glu	Glu	Ala	Leu	Lys	His	Arg	Arg	Thr	Tyr	Tyr	Ser	Ile	Thr	Asn	Gln
					20				25				30		
Ser	Pro	Val	Ser	Asp	Glu	Glu	Ile	Glu	Arg	Ile	Val	Asn	Leu	Ala	Val
					35				40			45			
Thr	His	Val	Pro	Ser	Ala	Phe	Asn	Ser	Gln	Ser	Thr	Arg	Val	Val	Leu
					50				55			60			
Leu	Leu	Gly	Glu	Asn	His	Lys	Lys	Leu	Trp	His	Ile	Val	Lys	Glu	Thr
					65				70			75		80	
Leu	Arg	Lys	Ile	Val	Pro	Pro	Glu	Val	Phe	Lys	Thr	Thr	Glu	Ala	Lys
					85				90			95			
Ile	Asp	Asn	Ser	Phe	Ala	Ser	Gly	Tyr	Gly	Thr	Val	Leu	Phe	Phe	Glu
					100				105			110			
Asp	Gln	Ser	Val	Val	Lys	Gly	Leu	Gln	Glu	Ala	Phe	Ser	Ser	Tyr	Lys
					115				120			125			
Asp	Asn	Phe	Pro	Gly	Trp	Ser	Leu	Gln	Thr	Ser	Ala	Met	His	Gln	Leu
					130				135			140			
Ala	Val	Trp	Thr	Met	Leu	Glu	Asp	Val	Gly	Phe	Gly	Ala	Ser	Leu	Gln

145	150	155	160
His	Tyr Asn Pro Leu Ile Asp Glu Glu Val Arg His Thr Trp His Leu		
	165	170	175
Pro	Glu Glu Trp His Leu Ile Ala Glu Met Pro Phe Gly Leu Pro Val		
	180	185	190
Gln	Gly Pro Gly Asp Lys Asp Phe Lys Asp Leu Asp Thr Arg Val Lys		
	195	200	205
Val	Phe Lys		
	210		

<210> 6889

<211> 406

<212> PRT

<213> B.fragilis

<400> 6889

Asp Cys Val Ser Met Asn Val Ser Gly Ala Thr Ala Leu Trp Thr Arg  
 1 5 10 15  
 Leu Ser Val Lys Thr Glu Phe Gly Thr Lys Asp Tyr Val Val Asp Val  
 20 25 30  
 Lys Lys Asp Leu Lys Asn Ile Ser Ser Asp Phe Asn Glu Arg Ser Leu  
 35 40 45  
 His Ser Val Val Cys Met Glu Lys Gln Leu Ser Ala Asp Thr Leu Asn  
 50 55 60  
 Arg Ile Trp Ala Asp Ser Leu Arg Met Arg His Ile Val Ala Lys Thr  
 65 70 75 80  
 Ser Val Gln Val Val Ser Ala Asp Ser Ser Lys Cys Ile Arg Ser Glu  
 85 90 95  
 Gly Ser Cys Asp Asn Asn Cys Phe Val Ser Pro Ile Trp Ile Ala Tyr  
 100 105 110  
 Val Gly Asn Glu Cys Glu Val Glu Val Ala Gly Phe Leu Ser Ser Thr  
 115 120 125  
 Cys Trp Ser Val Ile Arg Tyr Ser Ser Ser Phe Val Leu Ile Val  
 130 135 140  
 Gly Val Thr Phe Ile Leu Phe Ala Phe Phe Tyr Tyr Val Tyr Lys Val  
 145 150 155 160  
 Lys Lys His Leu Ser Asp Ser Glu Val Glu Glu Glu Leu Leu Lys Glu  
 165 170 175  
 Arg Leu Glu Lys Glu Arg Glu Arg Tyr Gln Asp Leu Glu Glu Lys Arg  
 180 185 190  
 Arg Gln Tyr Glu Gln Gln Leu Asn Leu Leu Gln Gln Glu Glu Lys Met  
 195 200 205  
 Arg Ile Arg Glu Leu Ser Asp Leu Arg Glu Lys His Lys Gln Lys Glu  
 210 215 220  
 Ala Gln Ile Glu Val Leu Ser Val Glu Lys Lys Arg Ser Lys Glu Gln  
 225 230 235 240  
 Gln Ser Ile Leu Glu Lys Glu Cys Gln Glu Gly Met Leu Gln Ile Thr  
 245 250 255  
 Met Leu Ser Asp Lys Leu Glu Lys Glu Lys Ile Asp Arg Gly Glu Leu  
 260 265 270  
 Gln Gln Lys Leu Ala Ala Cys Glu Leu Gln Ile Ala Glu Leu Arg Lys  
 275 280 285  
 Ile Lys Glu Met Leu Gly Glu Glu Leu Val Ile Tyr Lys Leu Cys Ser  
 290 295 300  
 Gly Leu Thr Phe Asp Pro Arg Asn His Ile Leu Asp Cys Ala Gly Asn  
 305 310 315 320  
 Arg Ile Lys Leu Asp Ala Gln Gly Ser Arg Leu Leu Leu Phe Leu  
 325 330 335  
 Glu Ala Ser Glu Asn Lys Leu Ser Tyr Glu Glu Leu Leu Glu Met Met

340	345	350
Trp Ala Asp Arg Arg Lys Asp Lys Asn Arg Leu Trp Thr Ala Val Ser		
355	360	365
Arg Leu Arg Lys Ala Leu Ala Pro Thr Arg Val Ile Ile Lys Val Lys		
370	375	380
Asn Glu Gly Gly Tyr Gln Leu Val Leu Pro Lys Glu Ser Asp Asp Phe		
385	390	395
Ser Gln Arg Glu Leu Phe		400
405		

&lt;210&gt; 6890

&lt;211&gt; 714

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6890

His Pro Val Ser Thr Thr Lys Ser Lys Val Thr Ile His Lys Lys Val			
1	5	10	15
Ile Ser Met Lys Thr Ile Ile Ala Glu Lys Pro Ser Val Ala Arg Glu			
20	25	30	
Ile Ala Arg Ile Val Gly Ala Thr Lys Arg Glu Glu Gly Tyr Phe Glu			
35	40	45	
Gly Gly Asp Cys Ala Val Thr Trp Ala Phe Gly His Leu Val Gln Leu			
50	55	60	
Ala Met Pro Asp Gly Tyr Gly Ile Arg Gly Phe Val Arg Asp Asn Leu			
65	70	75	80
Pro Val Ile Pro Glu Thr Phe Thr Leu Ile Pro Arg Gln Glu Lys Thr			
85	90	95	
Glu Lys Gly Tyr Lys Pro Asp Ser Gly Val Val Ser Gln Ile Lys Ile			
100	105	110	
Ile Ala Arg Leu Phe Lys Glu Ser Glu Gln Ile Ile Val Ala Thr Asp			
115	120	125	
Ala Gly Arg Glu Gly Glu Leu Ile Phe Arg Tyr Leu Tyr His Tyr Ile			
130	135	140	
Gly Cys Thr Thr Pro Phe Val Arg Leu Trp Ile Ser Ser Leu Thr Asp			
145	150	155	160
Lys Ala Ile Arg Glu Gly Leu Arg Asn Leu Glu Ala Gly Ser Lys Tyr			
165	170	175	
Asp Asn Leu Tyr Leu Thr Ala Lys Ala Arg Ser Glu Ser Asp Trp Leu			
180	185	190	
Val Gly Ile Asn Gly Thr Gln Ala Leu Ser Ile Ala Ala Gly His Gly			
195	200	205	
Thr Tyr Ser Val Gly Arg Val Gln Thr Pro Thr Leu Ala Met Val Cys			
210	215	220	
Val Arg Tyr Trp Glu Asn Arg Arg Phe Thr Val Glu Pro Phe Trp Gln			
225	230	235	240
Leu His Ile Ala Thr Asp Gly Gly Asn Gly Glu Val Val Lys Phe Ser			
245	250	255	
Ser Ser Glu Lys Trp Lys Glu Lys Glu Pro Ala Thr Glu Leu Tyr Asn			
260	265	270	
Lys Val Lys Glu Ala Gly Thr Ala Thr Val Thr Lys Ala Glu Arg Lys			
275	280	285	
Glu Lys Thr Glu Asp Thr Pro Leu Leu Tyr Asp Leu Thr Thr Leu Gln			
290	295	300	
Lys Glu Ala Asn Ala Lys His Gly Phe Thr Ala Glu Gln Thr Leu Glu			
305	310	315	320
Ile Ala Gln Lys Leu Tyr Glu Lys Lys Leu Ile Thr Tyr Pro Arg Thr			
325	330	335	
Gly Ser Arg Tyr Ile Pro Glu Asp Val Phe Val Glu Ile Pro Lys Leu			

340	345	350
Leu Ala Phe Ile Gly Ser Leu Pro	Glu Trp Lys Gly	Lys Val Asn Pro
355	360	365
Lys Ala Met Pro Thr Arg Arg	Ser Val Asp Gly	Gly Lys Val Thr Asp
370	375	380
His His Ala Leu Leu Val Thr	Gly Glu Lys	Pro Leu Phe Leu Ser Lys
385	390	395
Glu Asp Asn Thr Val Tyr Gln Met	Ile Ala Gly Arg Met	Ile Glu Ala
405	410	415
Phe Ser Glu Lys Cys Val Lys Asp	Thr Ala Thr Val	Ala Glu Cys
420	425	430
Ala Gly Ala Glu Phe Val Ala Lys	Gly Ser Ile Ile	Lys Gln Ala Gly
435	440	445
Trp Arg Ala Val Tyr Gly Glu Glu Lys	Glu Thr Ile Ile	Pro
450	455	460
Gly Trp Gln Glu Gly Asp Thr	Leu Thr Leu Lys	Ala Ala Ser Ile Thr
465	470	475
Glu Gly Lys Thr Lys Pro Lys	Pro Leu His Thr	Glu Ala Thr Leu Leu
485	490	495
Ser Ala Met Glu Thr Ala Gly Lys	Glu Ile Glu Asp Asp	Ala Leu Arg
500	505	510
Gln Ala Leu Lys Asp Cys Gly	Ile Gly Thr Pro	Ala Thr Arg Ala Ala
515	520	525
Ile Ile Glu Thr Leu Phe Lys	Arg Gly Tyr Met	Glu Arg Cys Lys Lys
530	535	540
Ser Leu Val Pro Thr Glu Lys	Gly Leu Ala	Leu Tyr Ser Val Val Lys
545	550	555
Thr Met Arg Ile Ala Asp Val	Ala Met Thr	Gly Glu Trp Glu Lys Glu
565	570	575
Leu Ala Arg Ile Glu Arg Gly	Glu Leu Pro Ala Asp Thr	Phe Arg Lys
580	585	590
Glu Ile Glu Ala Tyr Thr Gln	Glu Ile Thr Ser	Glu Leu Ser Cys
595	600	605
Asp Lys Leu Phe Ala Arg Arg	Asp Ser Gly	Cys Lys Cys Pro Lys Cys
610	615	620
Gly Thr Gly Ser Met Gln Phe	Tyr Gly Lys Val	Val Arg Cys Asp Asn
625	630	635
Ala Glu Cys Gly Leu Pro Val Phe	Arg Leu Lys	Ala Asn Arg Thr Leu
645	650	655
Thr Asp Asp Glu Ile Lys Asp	Leu Leu Thr Asp	Gly His Thr Lys Leu
660	665	670
Leu Lys Gly Phe Lys Ser Lys	Gln Gly Lys Ser	Phe Asp Ala Val Val
675	680	685
Ala Phe Asp Gly Asp Tyr Asn	Thr Thr Phe Val	Phe Pro Glu Arg Lys
690	695	700
Thr Thr Lys Lys Phe Ser	Gly Arg Lys Lys	
705	710	

&lt;210&gt; 6891

&lt;211&gt; 159

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6891

Phe Thr Asn Pro Leu Asn Ser Lys	Val Met Asn Asn Lys	Lys Asn
1	5	10

Glu Gly Gln Thr Asp Phe Ser	Tyr Tyr Gly	Leu Tyr Leu Leu Asp Tyr
20	25	30

Leu Arg Thr Asn Lys Phe	Glu Gln Ala	Thr Asp Glu Ala Phe Ile Arg
-------------------------	-------------	-----------------------------

35	40	45
Glu Arg Ala Asp Arg Ala Ala Gly Thr Tyr Glu Trp Ala Met Leu Glu		
50	55	60
Gly Tyr Pro Ala Asp Gly Ala Gln Glu Leu Ala Met Arg Thr Leu Leu		
65	70	75
Glu Gly Leu His Tyr Ser Lys Tyr Ala Ile Leu Arg Glu Val Val Glu		
85	90	95
Asn Glu Phe Ser Asp Asp Val Pro Glu Ala Lys Arg Glu Ser Phe Thr		
100	105	110
Arg Lys Leu Leu Pro Leu Val Gly Asn Val Phe Ser Ile Tyr Asp Leu		
115	120	125
Ser Asp Asp Asn Phe Ala Leu Ser Pro Asp Tyr Asp Leu Leu Tyr Thr		
130	135	140
Glu Leu Thr Gly Ala Val Val Leu Tyr Ile Glu Tyr Gly Val		
145	150	155

&lt;210&gt; 6892

&lt;211&gt; 110

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6892

Ser Gly Asp Pro Pro Pro Val Asp Lys Val Ser Gly Met Ala Pro Cys		
1	5	10
Arg Ser Gln Phe His Gln Pro Val Phe Ala Val Pro Gly Val Gln Arg		
20	25	30
Glu Gly Leu Pro Tyr Glu Asp Gly Arg Arg Cys Arg Ala Glu Ala Asp		
35	40	45
Thr Tyr Pro Leu Val Asp Ala Asp His Val Lys Asp Asp Glu Gln Asp		
50	55	60
Glu Glu Ser Gln Gln Thr Ser Ala Glu Asp Glu Glu Val Leu Ser Leu		
65	70	75
Gln Thr Leu Glu Leu Asp Arg Thr Ala Asp Thr Leu Val Tyr Arg Val		
85	90	95
Phe Ser His Thr Leu Phe Ile Lys Gly Arg Met Ser Ala Gly		
100	105	110

&lt;210&gt; 6893

&lt;211&gt; 300

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6893

Asn Met Met Phe Phe Lys Arg Thr Phe Lys Lys Thr Tyr Gln Asn Gln		
1	5	10
Arg Met Met Lys Leu Val Arg Met Thr Gly Gly Leu Gly Asn Gln Met		
20	25	30
Phe Ile Tyr Ala Phe Tyr Ile Gln Met Lys Thr Ile Phe Pro Glu Leu		
35	40	45
Arg Ile Asp Met Ser Glu Met Lys Lys Tyr Lys Leu His Asn Gly Tyr		
50	55	60
Glu Leu Glu Asp Val Phe Ser Ile Arg Pro Gln Thr Ile Ser Ala His		
65	70	75
Lys Trp Leu Lys Arg Val Ile Val Tyr Ala Phe Phe Ser Ile Ile Arg		
85	90	95
Glu Lys Ser Glu Glu Glu Leu Ser Ile His Lys Tyr Thr Gln His Lys		
100	105	110
Arg Trp Thr Leu Val Tyr Tyr Lys Gly Phe Phe Gln Ser Glu Leu Phe		
115	120	125

Phe Lys Glu Ser Ser Asp Thr Ile Arg Asp Ile Phe Ser Phe Asn Thr  
 130 135 140  
 Glu Asn Ala Asn Phe Arg Thr Lys Glu Trp Ala Lys Ile Ile Lys Glu  
 145 150 155 160  
 Gln Arg Ser Ser Val Ser Ile His Ile Arg Arg Gly Asp Tyr Thr Ser  
 165 170 175  
 Ala Lys Asn Lys Ile Lys Tyr Gly Asn Ile Cys Thr Lys Glu Tyr Tyr  
 180 185 190  
 Gln Lys Ala Ile Ser Ile Ile Leu Lys Lys Glu Pro Lys Ala Phe Phe  
 195 200 205  
 His Ile Phe Ser Asp Asp Val Glu Trp Thr Lys Ala His Leu Lys Ile  
 210 215 220  
 His His Leu Pro His Gln Tyr Ile Ser Trp Asn Arg Gly Pro Asp Ser  
 225 230 235 240  
 Trp Gln Asp Met Met Leu Met Ser Leu Cys Arg His Asn Ile Ile Ala  
 245 250 255  
 Asn Ser Ser Phe Ser Trp Trp Gly Ala Trp Leu Asn Ala Tyr Lys Asp  
 260 265 270  
 Lys Thr Val Ile Ala Pro Ser Arg Trp Ser Asn Val Lys Lys Thr Pro  
 275 280 285  
 His Ile Leu Pro Glu Ser Trp Ile Ser Ile Asp Ile  
 290 295 300

<210> 6894  
 <211> 300  
 <212> PRT  
 <213> B.fragilis

<400> 6894  
 Leu Asn Asn Pro His Thr Thr Met Lys Val Ser Ile Ile Ile Leu Asn  
 1 5 10 15  
 Tyr Asn Thr Ser Arg Leu Thr Leu Asn Cys Ile Asn Ser Ile His Lys  
 20 25 30  
 Tyr Leu Pro Asn Gly Thr Tyr Glu Ile Ile Val Val Asp Asn Ala Ser  
 35 40 45  
 Gln Glu Thr Asp Tyr Gln His Leu Thr Glu Asn Leu Ser Gly Gln Glu  
 50 55 60  
 Ile Thr Ile Ile Arg Asn Lys Ile Asn Ser Gly Phe Gly Ala Gly Asn  
 65 70 75 80  
 Met Val Gly Ala Asn Ile Ala Gln Gly Lys Tyr Leu Cys Phe Leu Asn  
 85 90 95  
 Asn Asp Thr Glu Leu Leu Glu Asp Cys Ile Ser Pro Leu Cys Ser Tyr  
 100 105 110  
 Leu Lys Glu Asn Pro Gln Thr Gly Cys Ile Thr Pro Gln Gln Tyr Asn  
 115 120 125  
 Lys His Leu Lys Ala Val Pro Ser Phe Asn His Pro Ile Gly Ile Leu  
 130 135 140  
 Tyr Glu Ile Leu Gly Asn Asp Ile Pro Glu Arg Leu Cys Pro Ala Arg  
 145 150 155 160  
 Tyr Pro Lys Arg Lys Lys Val Tyr Gln Phe Pro Ile His Ala Ser  
 165 170 175  
 Trp Ile Asn Gly Ala Phe Met Met Phe Pro Ser Glu Val Phe Phe Lys  
 180 185 190  
 Ile Lys Gly Phe Asp Thr Asn Ile Phe Leu Tyr Tyr Glu Glu Tyr Asp  
 195 200 205  
 Ile Cys Thr Arg Leu Ser Tyr His Asn Tyr Gln Ser Thr Val Leu Pro  
 210 215 220  
 Thr Tyr Arg Phe Leu His Leu Gln Gly Glu Ser Thr Lys Val Tyr Ala  
 225 230 235 240

Leu Ala Tyr Lys Glu Arg Phe Ile Ser Lys Leu Tyr Val Tyr Lys Lys  
           245                     250                     255  
 His Ser Asn Phe Leu Phe Tyr Ile Ile Tyr Lys Trp Ile Ile Ile  
           260                     265                     270  
 Lys Leu Cys Phe His Phe Arg Arg Trp Tyr Ile Leu Pro Thr Ile Ile  
           275                     280                     285  
 Leu Gly Lys Gly Leu Ser Gln Ser Met Arg His Lys  
           290                     295                     300

&lt;210&gt; 6895

&lt;211&gt; 168

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6895

Lys Ala Leu Pro Glu Pro Ser Leu Glu Ser Ser Val Asp Cys Thr Leu  
 1                      5                     10                     15  
 Leu Phe Cys Thr Leu Pro Asn Glu Arg Lys Lys Thr Met Gly Lys Val  
           20                     25                     30  
 Gln Ile Leu Ala Val Leu Thr Met Asp Gly Cys His Ser Ser Glu Leu  
           35                     40                     45  
 Tyr Gly Lys Ala Tyr Glu Asp Leu Arg Leu Asp Arg Cys Asp Ile Asp  
           50                     55                     60  
 Lys Ile Arg Glu Asn Ala Leu Tyr His Val Thr Pro Asp Tyr Ser Ile  
           65                     70                     75                     80  
 Ser Met Leu Asp Glu Trp Arg Lys Asp Asn Thr Asn Ile Cys Tyr Leu  
           85                     90                     95  
 Ala Glu Ala Thr Pro Asp Asn Ser Asp Tyr Ile Asn Gly Leu Leu Arg  
           100                    105                     110  
 Met Arg Val Val Asp Glu Ile Ile Leu Tyr Thr Val Pro Phe Ile Ser  
           115                    120                     125  
 Gly Thr Gly Arg His Phe Phe Lys Ser Ala Leu Pro Glu Ala Arg Trp  
           130                    135                     140  
 Thr Leu Ser Ser Gln Lys Ser Tyr Ser Asn Gly Val Tyr Arg Ser Ile  
           145                    150                     155                     160  
 Tyr Thr Arg Met Glu Thr Met Lys  
           165

&lt;210&gt; 6896

&lt;211&gt; 1022

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6896

Ser Ser Lys Pro Asp Arg Met Lys Glu Ala Leu Thr Thr Asn Gln Val  
 1                      5                     10                     15  
 Val Ile Val Leu Val Glu His Pro Val Leu Gly Leu Leu Leu Val Pro  
           20                     25                     30  
 Tyr Thr Val Gly Arg Ala Leu Asp Asn Thr Leu Glu Val Ile Glu Gln  
           35                     40                     45  
 Ala Phe His Ala Ser Pro Asp Ala Leu Lys Lys Met Asn Glu Ala Glu  
           50                     55                     60  
 Gln Lys Ala Ile Asp Ile Ala Ser His Tyr Thr Glu Lys Tyr Leu Met  
           65                     70                     75                     80  
 Gly Val Tyr Ser Arg Glu Lys Thr Val Pro Lys Phe Leu Arg Lys Leu  
           85                     90                     95  
 Thr Glu Asp Ser Asn Lys Leu Lys Gln Gln Ile Arg Pro Phe Ile Glu  
           100                    105                     110  
 Lys Lys Leu Leu Glu Met Leu Glu Leu Ile Cys Asn Gly Gln Leu Pro

115	120	125													
Phe	Tyr	Gln	Lys	Pro	Ser	Gly	Ser	Lys	Gln	Leu	Tyr	Glu	His	His	Ala
130						135					140				
Tyr	Arg	Val	His	Pro	His	Asn	Leu	Lys	Thr	His	Phe	Ser	Phe	Lys	Val
145						150				155					160
Thr	Glu	Glu	His	Phe	Ser	Tyr	Gln	Leu	Gln	Cys	Tyr	Asp	Asp	Asp	Thr
	165						170					175			
Pro	Val	Ser	Leu	Met	Glu	Gln	Lys	Pro	Val	Val	Val	Leu	Thr	Ser	Asn
	180						185					190			
Pro	Ala	Thr	Leu	Leu	Leu	Gly	Met	Asp	Leu	Tyr	Thr	Phe	Ser	His	Ile
	195						200				205				
Glu	Ala	Ser	Arg	Leu	Leu	Pro	Phe	Thr	Lys	Lys	Glu	Arg	Ile	Ser	Ala
210						215					220				
Asp	Ala	Ser	Leu	Thr	Glu	Lys	Tyr	Ile	Asp	Asn	Ile	Ile	Ile	Pro	Leu
225						230				235					240
Ala	Arg	Tyr	His	Asp	Ile	Ser	Ile	Gln	Gly	Leu	Lys	Val	Val	Arg	Glu
	245						250					255			
Lys	Arg	Pro	Cys	Asn	Ala	Tyr	Leu	Tyr	Leu	Glu	Asp	Thr	Ile	Tyr	Asn
	260						265					270			
Asp	Thr	Leu	Leu	Arg	Leu	Asp	Phe	Arg	Tyr	Gly	Glu	Gln	Ser	Phe	Ser
	275						280					285			
Pro	Gln	Pro	Ser	Asp	Glu	Thr	Arg	Lys	Phe	Val	Phe	Arg	Glu	Gln	Glu
	290					295					300				
Glu	Glu	Glu	Ile	Val	Ile	His	Tyr	Phe	Gln	Arg	Asn	Ser	Thr	Ala	Glu
305						310				315					320
Arg	Lys	Ala	Val	His	Leu	Leu	Gln	Lys	Ala	Gly	Leu	Gln	Cys	Ile	Ser
	325						330					335			
Asp	Ser	His	Phe	Lys	Leu	Ser	Ser	Ala	Ala	Pro	Glu	Lys	Asn	Ile	Thr
	340						345					350			
Glu	Trp	Ile	Ser	His	His	Arg	Gln	Met	Leu	Leu	Glu	Glu	Phe	Val	Leu
	355						360					365			
Ser	Ser	Asp	Thr	Gln	Asn	Lys	Pro	Tyr	Tyr	Leu	Pro	Glu	Ile	Arg	Ile
	370					375					380				
Glu	Gln	Ser	Cys	Glu	Asp	Gly	Pro	Asp	Trp	Phe	Asp	Leu	His	Ile	Thr
385						390				395					400
Val	Val	Ile	Gly	Asn	Gln	Arg	Ile	Pro	Phe	Ser	Arg	Phe	Arg	Lys	Asn
	405						410					415			
Ile	Leu	Glu	Gly	Asn	Arg	Glu	Tyr	Ile	Leu	Pro	Asp	Gly	Arg	Ile	Val
	420						425					430			
Leu	Leu	Pro	Glu	Glu	Trp	Phe	Ser	Lys	Tyr	Thr	Asn	Leu	Leu	Glu	Ala
	435						440					445			
Gly	Lys	Glu	Ser	Asp	Lys	Thr	Ile	Arg	Leu	Lys	Arg	Pro	Phe	Ile	Gly
	450						455					460			
Val	Ile	Glu	Ser	Ile	Leu	Glu	Lys	Asp	Arg	Gln	Ser	Thr	Ser	Ile	Lys
465						470				475					480
Thr	Leu	Leu	Ser	Lys	Glu	Ile	Pro	Val	Pro	Ile	Gly	Leu	Lys	Ala	Asn
	485						490					495			
Leu	Arg	Ser	Tyr	Gln	Gln	Lys	Gly	Phe	Ser	Trp	Leu	Ala	Asn	Leu	Tyr
	500						505					510			
Leu	Glu	Gly	Phe	Gly	Gly	Cys	Leu	Ala	Asp	Asp	Met	Gly	Leu	Gly	Lys
	515						520					525			
Thr	Leu	Gln	Thr	Leu	Ala	Leu	Leu	Gln	Tyr	Val	Tyr	Lys	Pro	Gly	Asn
	530						535					540			
Thr	Thr	Glu	Ala	Ile	Arg	Glu	Thr	Ile	Asp	Leu	Glu	Lys	Ala	Glu	Ser
545							550				555				560
Thr	Ser	Asp	Cys	Leu	Pro	Gln	Lys	Gln	Val	Phe	Phe	Asp	Glu	Lys	Gly
	565						570					575			
Gln	Phe	Ser	Leu	Phe	Pro	Met	Gln	Ser	Lys	Glu	Glu	Glu	Asn	Ser	Arg
	580						585					590			

Ile Ala Pro Gln Val Pro Gln Ile Pro Glu Pro Val Gln Lys Gln Asn  
 595 600 605  
 Arg Ile Ser Pro Leu His Gly Thr Leu Ile Val Val Pro Thr Ser Leu  
 610 615 620  
 Leu His Asn Trp Lys Arg Glu Ala Ser Arg Phe Thr Asn Leu Ser Met  
 625 630 635 640  
 Met Glu Tyr Asn Gly Ser Ser Pro Asn Glu Ile Thr Arg Leu Lys Lys  
 645 650 655  
 Tyr Phe Asp Arg Tyr His Leu Ile Phe Thr Thr Tyr Gly Thr Met Arg  
 660 665 670  
 Asn Asn Ile Ala Thr Leu Ser Gln Tyr Thr Phe Glu Cys Ile Val Leu  
 675 680 685  
 Asp Glu Ser Gln Asn Ile Lys Asn Ser Glu Ser Leu Thr Phe Arg Ser  
 690 695 700  
 Ala Ile Gln Leu Arg Ser Lys His Arg Leu Ile Leu Thr Gly Thr Pro  
 705 710 715 720  
 Ile Glu Asn Ser Leu Lys Asp Leu Trp Ala Gln Phe His Phe Leu Gln  
 725 730 735  
 Pro Glu Leu Leu Gly Asn Glu Thr Thr Phe Ser Lys His Phe Ile Asn  
 740 745 750  
 Ala Ile Arg Gln Gly Asp Glu Arg Met Lys Asp Arg Leu Arg Gln Leu  
 755 760 765  
 Ile Thr Pro Phe Ile Leu Arg Arg Ser Lys Gln Glu Val Thr Pro Glu  
 770 775 780  
 Leu Pro Ser Leu Thr Glu Glu Val Val Tyr Cys Asp Met Thr Glu Arg  
 785 790 795 800  
 Gln Asn Glu Leu Tyr Gln His Glu Lys Asn Ser Leu Arg Asn Ile Leu  
 805 810 815  
 Leu Glu Gln Thr Ala Glu Lys Gly Gln Gln Ser Phe Thr Val Leu Asn  
 820 825 830  
 Gly Ile Leu Arg Leu Arg Gln Leu Ser Cys His Pro Gln Leu Val Leu  
 835 840 845  
 Pro Asp Phe Ile Gly Asp Ser Gly Lys Leu Tyr Gln Ile Ile Glu Thr  
 850 855 860  
 Phe Glu Thr Leu Arg Ser Glu Gly His Lys Val Leu Ile Phe Ser Ser  
 865 870 875 880  
 Phe Val Lys His Leu Glu Leu Val Ala Gly Glu Phe Arg Lys Arg Lys  
 885 890 895  
 Trp Asp Tyr Ala Phe Leu Thr Gly Ser Ser Thr Asn Arg Pro Glu Glu  
 900 905 910  
 Ile Ala Arg Phe Asn Arg Asp Pro Lys Ile Gln Ala Phe Leu Ile Ser  
 915 920 925  
 Leu Lys Ala Gly Gly Val Gly Leu Asn Leu Thr Gln Ala Asp Tyr Val  
 930 935 940  
 Phe Ile Ile Asp Pro Trp Trp Asn Pro Ala Ala Glu Ser Gln Ala Ile  
 945 950 955 960  
 Ala Arg Ala His Arg Ile Gly Gln Asn Asn Gln Val Ile Ala Tyr Arg  
 965 970 975  
 Phe Ile Thr Gln Gly Ser Ile Glu Glu Lys Ile Ile Gln Leu Gln Glu  
 980 985 990  
 Glu Lys Arg Lys Leu Ala Glu Thr Phe Ile Thr Asp Thr Glu Gln Leu  
 995 1000 1005  
 Pro Ala Leu Thr Asn Arg Glu Trp Ala Arg Leu Leu Gly Ser  
 1010 1015 1020

&lt;210&gt; 6897

&lt;211&gt; 388

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6897

Lys Pro Asp Thr Arg Ser Cys Phe Ile Arg Thr Glu Ile Glu Asn Asn  
 1 5 10 15  
 Asn Asn Gln Arg Leu Thr Lys Thr Thr Lys Phe Tyr Leu Pro Leu  
 20 25 30  
 Lys Ser Lys Val Met Arg Lys Val Ile Ile Met Phe Ala Leu Ala Met  
 35 40 45  
 Asp Ile Val Thr Ala Asn Ala Gln Glu Asn Val Thr Val Gly Thr Asp  
 50 55 60  
 Asn Gly Ser Glu Pro Thr Asn Glu Ala Arg Ala Glu Ala Ser Ser Leu  
 65 70 75 80  
 Asp Tyr Ala Ser Gln Gly Gly Arg Gln Ser Gln Gln Pro Thr Leu  
 85 90 95  
 Thr Lys Glu Val Tyr Pro Gln Lys Lys Ala Asp Gly Asp Leu Tyr His  
 100 105 110  
 Gly Leu Thr Lys Lys Leu Thr Phe Asp Arg Met Val Pro Pro His Gly  
 115 120 125  
 Leu Glu Val Thr Tyr Asp Lys Thr Val His Val Ile Phe Pro Ser Glu  
 130 135 140  
 Val Arg Tyr Val Asp Leu Gly Ser Pro Asp Leu Ile Ala Gly Lys Ala  
 145 150 155 160  
 Asp Gly Ala Glu Asn Val Ile Arg Val Lys Ala Thr Val Arg Asn Phe  
 165 170 175  
 Pro Asn Glu Thr Asn Met Ser Val Ile Thr Glu Asp Gly Ser Phe Tyr  
 180 185 190  
 Thr Phe Asn Val Lys Tyr Ala Ala Glu Pro Leu Leu Asn Val Glu  
 195 200 205  
 Met Cys Asp Phe Ile His Asp Gly Glu Lys Val Asn Cys Pro Asn Asn  
 210 215 220  
 Ala Gln Glu Ile Tyr Leu Lys Glu Leu Gly Ser Glu Ser Pro Met Leu  
 225 230 235 240  
 Val Arg Leu Ile Met Lys Ser Ile His Lys Gln Asn Lys Arg Glu Val  
 245 250 255  
 Lys His Ile Gly Cys Lys Arg Phe Gly Ile Gln Tyr Leu Leu Lys Gly  
 260 265 270  
 Ile Tyr Thr His Asn Gly Leu Leu Tyr Phe His Thr Glu Ile Lys Asn  
 275 280 285  
 Gln Ser Asn Val Pro Phe Asp Val Asp Tyr Ile Thr Trp Lys Ile Val  
 290 295 300  
 Asp Lys Lys Val Ala Lys Arg Thr Ala Val Gln Glu Gln Ile Ile Leu  
 305 310 315 320  
 Pro Leu Arg Ala Gln Asn Tyr Ala Thr Leu Val Pro Gly Lys Lys Ser  
 325 330 335  
 Glu Arg Thr Val Phe Thr Met Ala Lys Phe Thr Ile Pro Asp Asp Lys  
 340 345 350  
 Cys Leu Val Val Glu Leu Asn Glu Lys Asn Gly Gly Arg His Gln Ser  
 355 360 365  
 Phe Val Ile Glu Asn Glu Asp Leu Val Arg Ala Asn Thr Ile Asn Glu  
 370 375 380  
 Leu Gln Val Arg  
 385

&lt;210&gt; 6898

&lt;211&gt; 416

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6898

Tyr Ala Val Thr Ile Asp Met Thr Lys Lys Trp Gln Tyr Leu Cys Arg  
 1 5 10 15  
 Cys Leu Leu Val Leu Val Phe Ile Gly Gly Val Ile Pro Ala Lys Ala  
 20 25 30  
 Gln Leu Val Glu Arg Val Cys Arg Thr Asp Tyr Lys Ile Ser Pro Glu  
 35 40 45  
 Arg Lys Gly Glu Leu Leu Glu Leu Asp Asn Ile Ser Phe Phe Lys  
 50 55 60  
 Asp Asn Glu Phe Ala Gly Thr Val Ile Lys Gly Tyr Ser Leu Pro Gly  
 65 70 75 80  
 Leu Trp Ile Gln Pro Lys Phe Val Tyr Tyr Pro Leu Lys Asn Ile Lys  
 85 90 95  
 Leu Glu Gly Gly Val His Met Leu Trp Phe Ser Gly Ala Tyr Arg Tyr  
 100 105 110  
 Pro Ser Val Ser Tyr Gln Asp Ile Ala Leu Trp Lys Gly Glu Gln Tyr  
 115 120 125  
 Gln Lys Gly Ala His Leu Leu Pro Phe Arg Ala Gln Ile Ser Met  
 130 135 140  
 Lys Ser Val Asp Leu Ile Leu Gly Asn Ile Tyr Gly Gly Ser Asn His  
 145 150 155 160  
 Gly Leu Ile Ala Pro Leu Tyr Asn Pro Glu Leu Asn Leu Thr Ala Asp  
 165 170 175  
 Pro Glu Thr Gly Phe Gln Val Leu Ala Gly Ala Pro Trp Ile Asp Leu  
 180 185 190  
 Asp Ala Trp Ile Asp Trp Gln Ser Phe Ile Phe Arg Asp Asp Thr His  
 195 200 205  
 Gln Glu Ala Phe Thr Val Gly Leu Ser Thr Arg Phe Lys Leu Asn Ala  
 210 215 220  
 Pro Ser Ser Thr Phe His Cys Tyr Ile Pro Leu Gln Ile Leu Ala Gln  
 225 230 235 240  
 His Arg Gly Gly Glu Ile Asp Thr Ile Arg Glu Ser Ser Val Gln Thr  
 245 250 255  
 Leu Met Asn Gly Ala Val Gly Ala Gly Val Thr Trp Asn Ile Asp Arg  
 260 265 270  
 Arg Ile Leu Lys Arg Val Asn Val Glu Leu Asp Ala Ala Gly Tyr Tyr  
 275 280 285  
 Gln Gln Lys Gly Glu Leu Trp Pro Tyr His Lys Gly Ile Gly Val Tyr  
 290 295 300  
 Ser Ser Ala Phe Val Asp Leu Gly Asn Phe Arg Val Lys Met Gly His  
 305 310 315 320  
 Trp Ile Cys Asn Asp Phe Ile Thr Met Phe Gly Ile Pro Tyr Phe Gly  
 325 330 335  
 Thr Val Ser Thr Lys Lys Glu Gly Ile Thr Tyr Asp Lys Pro Gln Thr  
 340 345 350  
 Leu Leu Cys Ser Ile Glu Tyr Ser Arg Met Phe Gly Lys His Tyr Ala  
 355 360 365  
 Leu Gly Leu Lys Ala Asp Ala Tyr Gln Phe Phe Pro Gly Thr Met Arg  
 370 375 380  
 Ser Ala Asn Gly Glu Leu Thr Ser Pro Gly Ser Thr Thr Ser Phe Ser  
 385 390 395 400  
 Val Gly Val Tyr Phe Arg Ile Asn Pro Ser Phe Leu Leu Lys Asn Phe  
 405 410 415

&lt;210&gt; 6899

&lt;211&gt; 427

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6899

Asn Cys Gly Thr Phe Lys Arg Asn Ala Gly Lys Met Val Ala Lys Ile  
 1 5 10 15  
 Ser Val Gly Asn Ser Leu Tyr Gly Ala Leu Ala Tyr Asn Gly Glu Lys  
 20 25 30  
 Ile Asn Glu Ala Lys Gly Arg Leu Leu Thr Thr Asn Arg Ile Tyr Asn  
 35 40 45  
 Asp Gly Thr Gly Thr Met Glu Ile His Arg Ala Met Glu Asp Phe Leu  
 50 55 60  
 Ala Leu Met Pro Val Arg Ser Lys Val Glu Lys Pro Val Val His Ile  
 65 70 75 80  
 Ser Leu Asn Pro His Pro Asp Asp Ile Leu Thr Asp Thr Glu Leu Gln  
 85 90 95  
 Asn Ile Ala Arg Glu Tyr Leu Glu Lys Met Gly Phe Gly Asn Gln Pro  
 100 105 110  
 Tyr Leu Val Phe Lys His Glu Asp Ile Asp Arg His His Leu His Ile  
 115 120 125  
 Val Thr Val Arg Val Asp Glu Asn Gly Arg Ser Ile Asp Thr Arg Asn  
 130 135 140  
 Asn Phe Tyr Arg Ser Lys Gln Ile Thr Arg Glu Leu Glu Arg Lys Tyr  
 145 150 155 160  
 Gly Leu His Asp Ala Glu Arg Lys Asn Arg Arg Leu Asp Thr Pro Leu  
 165 170 175  
 His Lys Val Asp Ala Ser Ala Gly Asp Val Lys Lys Gln Ala Gly Asn  
 180 185 190  
 Ile Val Lys Ala Ile Ser Gly Gln Tyr Arg Phe Gln Thr Met Gly Glu  
 195 200 205  
 Tyr Arg Ala Leu Leu Ser Leu Tyr Asn Met Thr Val Glu Glu Ala His  
 210 215 220  
 Gly Asn Val Arg Gly Arg Glu Tyr His Gly Leu Val Tyr Ser Val Thr  
 225 230 235 240  
 Asp Asp Lys Gly Asn Lys Val Gly Asn Pro Phe Lys Ser Ser Leu Phe  
 245 250 255  
 Gly Lys Ser Val Gly Tyr Glu Ala Val Gln Lys Lys Phe Ala Arg Ser  
 260 265 270  
 Lys Gln Glu Ile Lys Asp Arg Lys Leu Ala Asp Met Thr Lys Arg Thr  
 275 280 285  
 Val Leu Ser Val Leu Glu Gly Thr Tyr Asp Lys Glu Lys Phe Val Ala  
 290 295 300  
 Thr Leu Lys Gly Lys Gly Ile Asp Thr Val Leu Arg Tyr Thr Glu Glu  
 305 310 315 320  
 Gly Arg Ile Tyr Gly Ala Thr Phe Ile Asp His Arg Thr Gly Cys Val  
 325 330 335  
 Leu Asn Gly Ser Arg Met Gly Lys Glu Leu Ser Ala Asn Ala Leu Gln  
 340 345 350  
 Glu His Phe Thr Leu Pro Tyr Ala Gly Gln Pro Pro Ile Pro Ile Ser  
 355 360 365  
 Val Pro Val Glu Glu Pro Glu Asn Arg Gln Gly Tyr Ser Gly Gly Glu  
 370 375 380  
 Tyr Glu Ser His Ser Ser Gly Met Asn Leu Phe Ala Pro Glu Gly Ser  
 385 390 395 400  
 Ala Val Asp Ala Glu Glu Ala Phe Ile Arg Ala Met Gln Arg Lys  
 405 410 415  
 Lys Lys Lys Lys Lys Arg Lys Gly Leu Gly Thr  
 420 425

&lt;210&gt; 6900

&lt;211&gt; 837

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6900

Asn Asp Gln Thr Ile Met Glu Thr Leu Lys Glu Lys Phe Glu Ala Leu  
 1 5 10 15  
 Ala His Arg Ile Gln Ser Ser Gly Lys Pro Ala Ala Ala Trp Phe Pro  
 20 25 30  
 Gln Phe Thr Pro Val Thr Leu Leu Asn Ala Glu Asn Trp Trp Glu Ala  
 35 40 45  
 Leu Ala Val Cys Glu Tyr Ala Leu Asp Thr His Glu Asp Glu Ala Leu  
 50 55 60  
 Thr Ala Gly Phe Phe Glu Leu Ile Phe Ser Ala Tyr Asp Cys Asn Val  
 65 70 75 80  
 Glu Val Asp Leu Asn Glu Glu Glu Tyr Ala Tyr Trp Trp Glu Lys Val  
 85 90 95  
 Ile Ser Val Cys Asp Arg Val Ala Val Phe Asn Gly Ala Gly Trp Ser  
 100 105 110  
 Gln Lys Gly Ala Gln Tyr Ser Glu Ala Arg Tyr Gly Lys Arg Asp Leu  
 115 120 125  
 Ser Leu Leu Phe Pro Cys Tyr Glu Lys Ala Ala Glu Met Gly Ser Pro  
 130 135 140  
 Glu Ala Glu Ala Thr Val Ala Tyr Trp Arg Tyr Met Gly Phe Tyr Cys  
 145 150 155 160  
 Glu Gln Asp Arg Ala Glu Gly Glu Arg Arg Phe Ala Ala Leu Ser Ser  
 165 170 175  
 Pro Glu Ala Leu Leu Trp Gly Lys Tyr Arg Ala Tyr Ala Glu Gln  
 180 185 190  
 His Thr Gly Ser Lys Glu Lys Ala Leu Leu Met Arg Lys Glu Leu Leu  
 195 200 205  
 Asp Glu Leu Pro Glu Ser His Arg Leu Arg Ala His Val Tyr Ala Ala  
 210 215 220  
 Met Gly Asp Ala Leu Asp Ile Glu Glu Gly Ser Val Ala Glu Glu Ala  
 225 230 235 240  
 Ala Cys Tyr Glu Lys Ser Leu Glu Leu Val Pro Asn Leu Tyr Ser Leu  
 245 250 255  
 Lys Asn Leu Ala Thr Leu Tyr Phe Arg Tyr Pro Glu Leu Gly Lys Gln  
 260 265 270  
 Lys Glu Leu Ala Phe Glu Leu Trp Glu Lys Ala Trp His Ala Gly Val  
 275 280 285  
 Trp Ser Ala Ala Asn Phe Leu Gly Tyr Asn Tyr Gln Glu Glu Trp  
 290 295 300  
 Leu Asp Met Pro Lys Ala Ile Glu Trp Leu Glu Lys Gly Met Leu Tyr  
 305 310 315 320  
 Cys Glu Ser Tyr Cys Ala Tyr Glu Leu Ala Leu Ile Tyr Leu Tyr Asn  
 325 330 335  
 Asp Glu Tyr Lys Asn Val Glu Arg Gly Leu Met Cys Leu Gln Arg Cys  
 340 345 350  
 Val Asp Asp Asn Tyr Val Glu Ala Ile Glu Thr Leu Ala Asn Val Tyr  
 355 360 365  
 Phe Asn Gly Glu Leu Val Glu Glu Asn Ile Ser Tyr Ala Cys Gln Leu  
 370 375 380  
 Leu Glu Arg Ala Ile Glu Leu Gly Ser Gly Ser Ala Ala Tyr Arg Ile  
 385 390 395 400  
 Gly Trp Met Tyr Glu Arg Gly Leu Leu Ser Glu Glu Pro Asp Tyr Gln  
 405 410 415  
 Lys Ala Met Glu Tyr Tyr Glu Lys Ala Val Ser Met Asp Asn Ala Asp  
 420 425 430  
 Gly Tyr Ala Arg Ala Ala Leu Tyr Leu Ala Asn Gly Tyr Ser Gly Val  
 435 440 445  
 Thr Asp Ala Gly Lys Ser Lys Ala Tyr Tyr Glu Lys Ala Ala Glu Leu

450	455	460
Gly Ser Cys Phe Ala Met Val Glu Leu Ala Phe Leu Tyr Glu Asn Gly		
465	470	475
Glu Val Val Glu Gln Ser Tyr Glu Lys Ala Phe Asp Leu Leu Gln Lys		480
485	490	495
Ala Ala Gly Gln Glu Tyr Pro Tyr Ala Met Tyr Arg Val Gly Leu Tyr		
500	505	510
Leu Asp Arg Gly Val Ile Gly Glu Pro Arg Pro Glu Glu Ala Phe Ala		
515	520	525
Trp Tyr Ala Lys Ala Ala Glu Arg Gly Asp Gly Asp Ala Ile Phe Ala		
530	535	540
Leu Gly Arg Cys Tyr Lys Asn Gly Ile Gly Thr Glu Glu Asn Pro Asp		
545	550	555
Lys Ala Leu Glu Trp Phe Thr Lys Gly Ala Glu Asn Asn Glu Pro Arg		560
565	570	575
Cys Leu Thr Glu Met Gly Leu Ala Tyr Glu Tyr Gly Ser Gly Ile Glu		
580	585	590
Glu Asn Pro His Gln Ala Val Glu Tyr Met Thr Lys Ala Ala Glu Gln		
595	600	605
Asn Tyr Gly Tyr Ala Gln Phe Lys Met Gly Asp Tyr Phe Phe Gly		
610	615	620
Tyr Gly Ala Cys Pro Glu Asp Asn Lys Gln Ala Val Glu Trp Tyr Glu		
625	630	635
Lys Ala Val Ala Asn Asp Ile Pro Leu Ala Met Leu Arg Met Gly Glu		640
645	650	655
Tyr Tyr Leu Tyr Asp Tyr Asp Lys Leu Asn Glu Ser Glu Lys Ala Phe		
660	665	670
Ser Tyr Phe Lys Lys Ala Ala Glu Ala Glu Cys Tyr Asn Glu Gly Leu		
675	680	685
Gly Ile Cys Tyr Glu Met Gly Ile Gly Val Glu Asp Asn Glu Thr Glu		
690	695	700
Ala Phe Lys Tyr Tyr Thr Leu Ala Ala Gly Ser Gly Asn Val Met Ser		
705	710	715
Met Tyr Arg Thr Gly Leu Cys Tyr Tyr Asn Gly Val Gly Val Lys Gln		720
725	730	735
Asn Tyr Thr Glu Ala Tyr Arg Trp Phe Asn Asp Ala Ala Gly Asn Asp		
740	745	750
Asn Val Ala Ser Tyr Tyr Tyr Leu Gly Lys Met Leu Met Tyr Gly Glu		
755	760	765
Gly Cys Val Pro Asp Ala Glu Ala Gly Leu Gln Trp Leu Met Lys Ala		
770	775	780
Ala Glu His Asn Ser Asp Lys Ala Gln Phe Glu Leu Gly Asn Ala Tyr		
785	790	795
Leu Met Gly Asn Gly Val Glu Glu Asn Asp Glu Ile Ala Met Glu Trp		800
805	810	815
Phe Glu Lys Ala Ala Glu Asn Gly Asn Ala Lys Ala Leu Lys Ile Thr		
820	825	830
Gly Arg Arg Gln Arg		
835		

&lt;210&gt; 6901

&lt;211&gt; 103

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6901

His Lys Thr Ala Arg Arg Phe Glu Arg Lys Ser Gly Lys Leu Thr Leu		
1	5	10
Arg Arg Arg Leu Arg Asp Ala Tyr Ala Met Pro Thr His Ser Val His		15

20	25	30
Ser Arg Thr Leu Arg Lys Arg	Leu Tyr Gln Ser Arg Arg	Leu Lys Val
35	40	45
Val Trp Ile Ala Arg Tyr Phe Phe Ala Pro Cys	Pro Thr Lys Gly Lys	
50	55	60
Arg Leu Trp Val Lys Phe Arg Phe Leu Pro Ser Ser	Arg Trp Thr Gly	
65	70	75
Val Ile Leu Gln Asn Tyr Met Ala Lys Arg Met Arg	Ile Tyr Ala Leu	80
85	90	95
Thr Ala Ala Ile Leu Thr Lys		
100		

&lt;210&gt; 6902

&lt;211&gt; 280

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6902

Phe Thr Asp Ala Asp Met Tyr Val Thr Ala Ser Val Gln Glu Gln Glu			
1	5	10	15
Asn Asn Ser Ser Thr Ile Lys Ser Asn Arg Thr Met Ser Asn Glu Ile			
20	25	30	
Phe Val Ala Phe Ala Thr Gln Lys Gly Gly Ile Gly Lys Ser Thr Val			
35	40	45	
Thr Ala Leu Ala Ala Ser Tyr Leu His Asn Val Gln Gly His Asn Val			
50	55	60	
Ala Val Ile Asp Cys Asp Ala Pro Gln His Ser Ile His Gly Leu Arg			
65	70	75	80
Glu Arg Glu Thr Lys Leu Ile Asp Glu Ser Leu Tyr Phe Lys Ala Leu			
85	90	95	
Ala Cys Asp His Phe Arg Lys Ile Lys Lys Asn Ala Tyr Pro Val Ile			
100	105	110	
Ala Ser Asp Ala Leu Asn Ala Leu Asp Asp Ala Glu Arg Met Leu Ala			
115	120	125	
Glu Glu Asp Ala Lys Pro Asp Ile Val Phe Phe Asp Met Pro Gly Thr			
130	135	140	
Leu Lys Ser Asn Gly Val Val Lys Thr Leu Ser Gln Met Asp Tyr Ile			
145	150	155	160
Phe Ala Pro Met Ser Ala Asp Arg Phe Val Val Glu Ser Thr Leu Gln			
165	170	175	
Phe Ala Val Met Phe Arg Asp Asn Leu Met Thr Thr Gly Gln Ala Lys			
180	185	190	
Thr Lys Gly Leu Tyr Leu Phe Trp Thr Met Val Asp Gly Arg Glu Lys			
195	200	205	
Asn Gly Leu Tyr Asp Leu Tyr Glu Asp Val Ile Ala Glu Met Gly Leu			
210	215	220	
Ser Val Leu Ser Thr Arg Leu Pro Asp Ser Lys Lys Phe Arg Arg Asp			
225	230	235	240
Leu Ser Glu Glu Arg Lys Ser Val Phe Arg Ser Thr Ile Phe Pro Met			
245	250	255	
Asp Val Ser Leu Leu Lys Gly Ser Gly Ile Arg Glu Phe Ser Glu Glu			
260	265	270	
Ile Ser Arg Ile Ile Lys Pro Gln			
275	280		

&lt;210&gt; 6903

&lt;211&gt; 1951

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6903

Arg Asn Met Ala Phe Asn Arg Lys Gln Arg Leu Arg Asp Asn Ile Glu  
 1 5 10 15  
 Ala Ile Arg Thr Ala Phe Val Leu Asp Arg Glu Gln Arg Thr Pro Thr  
 20 25 30  
 Ala Arg Glu Arg Leu Leu Leu Glu Arg Tyr Cys Gly Phe Gly Gly Leu  
 35 40 45  
 Lys Cys Ile Leu Asn Pro Ala Lys Glu Leu Thr Asp Ala Val His Trp  
 50 55 60  
 Ala Lys Ser Asp Leu Glu Leu Phe Ala Pro Thr Val Glu Leu His Lys  
 65 70 75 80  
 Leu Leu Arg Glu Asn Thr Lys Asp Asp Thr Glu Tyr Lys Gln Cys Met  
 85 90 95  
 Asp Ala Met Lys Gln Ser Val Leu Thr Ala Phe Tyr Thr Pro Pro Glu  
 100 105 110  
 Ile Thr Gly Thr Ile Ala Asp Val Leu His Glu His Gly Ile Arg Pro  
 115 120 125  
 Asp Arg Val Leu Glu Pro Ser Ala Gly Val Gly Ala Phe Val Asp Ala  
 130 135 140  
 Val Leu Glu Asn Lys Pro Asp Ala Asp Ile Met Ala Phe Glu Lys Asp  
 145 150 155 160  
 Leu Met Thr Gly Lys Ile Leu Arg His Leu His Pro Asp Gln Lys Val  
 165 170 175  
 Arg Ile Gln Gly Tyr Glu Lys Ile Glu Lys Pro Phe Met Asn His Phe  
 180 185 190  
 Asp Leu Ala Ile Ser Asn Ile Pro Phe Gly Asp Val Ala Val Phe Asp  
 195 200 205  
 Pro Glu Phe Thr Asn Ser His Asp Pro Ala Arg His Ser Ala Ala Arg  
 210 215 220  
 Thr Ile His Asn Tyr Phe Phe Leu Lys Ser Leu Asp Ala Val Arg Glu  
 225 230 235 240  
 Gly Gly Ile Val Ala Phe Ile Thr Ser Gln Gly Val Leu Asp Ala Pro  
 245 250 255  
 Thr Asn Glu Pro Ile Arg Glu Tyr Met Met Asn His Ala Asn Leu Val  
 260 265 270  
 Gly Val Ala Arg Leu Pro Asn Asn Leu Phe Thr Glu Asn Ala Gly Thr  
 275 280 285  
 Glu Val Gly Ser Asp Leu Ile Ile Leu Gln Lys Asn Ser Gly Lys Asn  
 290 295 300  
 Gly Glu Leu Tyr Tyr Asn Glu Lys Leu Phe Val Gln Thr Glu Gln Thr  
 305 310 315 320  
 Pro Ile Gly Thr Ser Val Asn Gly Tyr Val Trp Ser Ile Gly Ser Leu  
 325 330 335  
 Ser His Thr Asp Leu Thr Lys Ser Thr Asp Pro Tyr Gly Lys Pro Ala  
 340 345 350  
 Tyr Lys Leu Met His Arg Gly Asp Thr Val Gln Leu Ala Glu Asp Leu  
 355 360 365  
 Arg Glu His Leu Lys Ile Glu Leu His Gln Leu Asp Arg Glu Leu Tyr  
 370 375 380  
 Glu Lys His Ser Leu His Ser Ala Gln Val Glu Ser Thr Asp Lys Ser  
 385 390 395 400  
 Thr Pro Glu Glu Val Gln Pro Ser Pro Lys Val Glu Ala Val Thr Ser  
 405 410 415  
 Thr Ala Asn Val Phe Ile Thr Glu Ala Glu Lys Pro Lys Val Gln Pro  
 420 425 430  
 Ile Asp Glu Lys Pro Glu Ile Glu Pro Arg Gln Thr Asn His Ser Asn  
 435 440 445  
 Ala Val Gln Leu Thr Leu Leu Asp Leu Trp Gly Met Pro Ile Glu Glu

450	455	460
Pro Ala Lys Lys Lys Lys Ala Thr Lys Lys Glu Asn Lys Ala Lys Ser		
465	470	475
Val Pro Ser Lys Pro Lys Pro Gln Val Thr Ala Ala Pro Pro Ile Glu		480
485	490	495
Ser Val Lys Pro Ala Thr Glu Ser Lys Glu Ala Lys Pro Glu Asn Ala		
500	505	510
Gly Arg Gln Ser Asp Pro Glu Asp Ile Tyr Ala Thr Leu Asp Trp Glu		
515	520	525
Thr Asn Pro Pro Ile Asn Gly Phe Tyr Glu Thr Met Met Ser Leu Thr		
530	535	540
Pro Glu Arg Arg Lys Ala Leu Arg Leu Glu Ala Glu Arg His Arg Gln		
545	550	555
Glu Gln Leu Lys Lys Ser Gly Val Lys Asp Thr Leu Asn Pro Ala Phe		560
565	570	575
Val Pro Ser Ser Gly Asn Gln Ala Glu Gln Lys Glu Ala Ala Lys Gln		
580	585	590
Pro Lys Ala Gln Pro Glu Ala Thr Pro Val Pro Val Thr Asp Asn Ser		
595	600	605
Gln Ser Glu Lys Ala Thr Thr Ser Leu Phe Pro Glu Phe Glu Thr Gly		
610	615	620
Lys Pro Lys Glu Glu Val Pro Asp Leu Thr Ser Arg Pro Tyr His Arg		
625	630	635
Thr Pro Glu Met His Leu Arg Glu Gly Ser Leu Val Ala Asn Arg Ala		640
645	650	655
Arg Asp Ile Gly Tyr Leu Lys Asp Ile Thr Pro Tyr Gly Ala Thr Phe		
660	665	670
Gln Pro Leu Gly Leu Thr Gly Tyr Gln Lys Glu Lys Ala Leu Leu Tyr		
675	680	685
Val Ser Leu Arg Asp Ala Tyr Glu Arg Leu Tyr Arg Tyr Glu Ser Asn		
690	695	700
Arg His Glu Ala Asn Val Pro Trp Arg Glu His Leu Asn Thr Cys Tyr		
705	710	715
Asp Glu Phe Val Met Arg Tyr Gly Asn Leu Asn Ala Lys Gln Asn Val		720
725	730	735
Lys Leu Val Met Met Asp Ala Gly Gly Arg Asp Ile Leu Ser Leu Glu		
740	745	750
Arg Ala Glu Asn Gly Lys Phe Val Lys Ala Asp Ile Phe Glu Arg Pro		
755	760	765
Val Ser Phe Ser Val Glu Ser His Ala Asn Val Gly Ser Pro Glu Glu		
770	775	780
Ala Leu Ser Ala Ser Leu Asn Lys Phe Gly Thr Val Asp Leu Asp Tyr		
785	790	795
Met Arg Glu Ile Thr Asp Ser Thr Ala Glu Asp Leu Leu Thr Ala Leu		800
805	810	815
Gln Gly Arg Ile Tyr Tyr Asn Pro Leu Val Thr Gly Tyr Glu Ile Lys		
820	825	830
Asp Arg Phe Ile Ala Gly Asn Val Ile Glu Lys Ala Glu Arg Ile Glu		
835	840	845
Ala Trp Met Gly Glu Asn Pro Glu Ser Glu Arg Met Pro Glu Val Lys		
850	855	860
Gln Ala Leu Glu Ala Leu Lys Asp Ala Glu Pro Pro Arg Ile Ala Phe		
865	870	875
Glu Asp Leu Asp Phe Asn Phe Gly Glu Arg Trp Ile Pro Thr Gly Val		880
885	890	895
Tyr Ala Ala Tyr Met Ser Arg Leu Phe Asp Thr Glu Val Lys Ile Ala		
900	905	910
Tyr Ser Ala Ser Met Asp Glu Phe Ser Val Ala Cys Gly Tyr Arg Thr		
915	920	925

Met Lys Ile Thr Asp Glu Phe Leu Val Lys Gly Tyr Tyr Arg Asn Tyr  
 930 935 940  
 Asp Gly Met His Leu Leu Lys His Ala Leu His Asn Thr Cys Pro Asp  
 945 950 955 960  
 Met Met Lys Ser Ile Gly Arg Asp Glu His Gly Asn Asp Ile Lys Val  
 965 970 975  
 Arg Asp Ser Glu Gly Ile Gln Leu Ala Asn Ala Lys Ile Asp Glu Ile  
 980 985 990  
 Arg Asn Gly Phe Ser Glu Trp Leu Glu Glu Gln Ser Pro Gln Phe Lys  
 995 1000 1005  
 Glu Arg Leu Thr Thr Met Tyr Asn Arg Lys Phe Asn Cys Phe Val Arg  
 1010 1015 1020  
 Pro Lys Tyr Asp Gly Ser His Gln Thr Phe Pro Asp Leu Asn Leu Lys  
 1025 1030 1035 1040  
 Gly Leu Ala Ser Arg Gly Ile Arg Ser Val Tyr Pro Ser Gln Met Asp  
 1045 1050 1055  
 Cys Val Trp Met Leu Lys Gln Asn Gly Gly Ile Cys Asp His Glu  
 1060 1065 1070  
 Val Gly Thr Gly Lys Thr Leu Ile Met Cys Ile Ala Ala His Glu Met  
 1075 1080 1085  
 Lys Arg Leu Asn Leu Ala His Lys Pro Met Ile Ile Gly Leu Lys Ala  
 1090 1095 1100  
 Asn Val Ala Glu Ile Ala Ala Thr Tyr Gln Ala Ala Tyr Pro Asn Ala  
 1105 1110 1115 1120  
 Arg Ile Leu Tyr Ala Ser Glu Lys Asp Phe Ser Thr Ala Asn Arg Val  
 1125 1130 1135  
 Arg Phe Phe Asn Asn Ile Lys Asn Asn Asp Tyr Asp Cys Val Ile Met  
 1140 1145 1150  
 Ser His Asp Gln Phe Gly Lys Ile Pro Gln Ser Pro Glu Leu Gln Gln  
 1155 1160 1165  
 Arg Ile Leu Gln Ala Glu Leu Asp Thr Val Glu Glu Asn Leu Glu Val  
 1170 1175 1180  
 Leu Arg Gln Gln Gly Lys Asn Val Ser Arg Ala Met Leu Lys Gly Leu  
 1185 1190 1195 1200  
 Glu Lys Arg Lys His Asn Leu Glu Ala Lys Leu Glu Lys Val Glu His  
 1205 1210 1215  
 Ala Ile Lys Ser Arg Thr Asp Asp Val Val Asp Phe Lys Gln Met Gly  
 1220 1225 1230  
 Ile Asp His Ile Phe Ile Asp Glu Ser His Gln Phe Lys Asn Leu Thr  
 1235 1240 1245  
 Phe Asn Thr Arg His Asp Arg Val Ala Gly Leu Gly Asn Ser Glu Gly  
 1250 1255 1260  
 Ser Gln Lys Ala Leu Asn Met Leu Phe Ala Ile Arg Thr Ile Gln Glu  
 1265 1270 1275 1280  
 Arg Thr Gly Lys Asp Leu Gly Ala Thr Phe Leu Ser Gly Thr Thr Ile  
 1285 1290 1295  
 Ser Asn Ser Leu Thr Glu Leu Tyr Leu Leu Phe Lys Tyr Leu Arg Pro  
 1300 1305 1310  
 Lys Glu Leu Glu Arg Gln Asp Ile Arg Cys Phe Asp Ala Trp Ser Ala  
 1315 1320 1325  
 Ile Phe Ala Lys Lys Thr Thr Asp Phe Glu Phe Asn Val Thr Asn Asn  
 1330 1335 1340  
 Val Val Gln Lys Glu Arg Phe Arg Tyr Phe Ile Lys Val Pro Glu Leu  
 1345 1350 1355 1360  
 Ala Ala Phe Tyr Asn Glu Ile Thr Asp Tyr Arg Thr Ala Glu Asp Val  
 1365 1370 1375  
 Gly Val Asp Arg Pro Asn Lys Asn Glu Ile Leu His His Ile Pro Pro  
 1380 1385 1390  
 Thr Pro Glu Gln Glu Asp Phe Ile Gln Lys Leu Met Gln Phe Ala Lys

1395	1400	1405
Thr Gly Asp Ala Thr Leu Leu	Gly Arg Leu Pro Leu Ser	Glu Thr Glu
1410	1415	1420
Glu Lys Ala Lys Met Leu Ile Ala Thr Asp Tyr Ala Arg Lys Met Ala		
1425	1430	1435
Leu Asp Met Arg Met Ile Asp Pro His Tyr Glu Asp His Pro Asp Asn		1440
1445	1450	1455
Lys Ala Ser His Cys Ala Lys Ile Ile Ala Glu Tyr Tyr Gln Lys Tyr		
1460	1465	1470
Asp Ala Gln Lys Gly Thr Gln Phe Val Phe Ser Asp Leu Gly Thr Tyr		
1475	1480	1485
Gln Pro Gly Asp Gly Trp Asn Val Tyr Ser Glu Ile Lys Arg Lys Leu		
1490	1495	1500
Thr Glu Asp Tyr Gly Ile Pro Pro Ser Glu Val Arg Phe Ile Gln Glu		
1505	1510	1515
Cys Lys Thr Asp Lys Ala Arg Lys Ala Val Ile Asp Ala Met Asn Ala		1520
1525	1530	1535
Gly Thr Val Arg Val Leu Phe Gly Ser Thr Ser Met Leu Gly Thr Gly		
1540	1545	1550
Val Asn Ala Gln Lys Arg Cys Val Ala Ile His His Leu Asp Thr Pro		
1555	1560	1565
Trp Arg Pro Ser Asp Leu Gln Gln Arg Asp Gly Arg Gly Val Arg Ala		
1570	1575	1580
Gly Asn Glu Ile Ala Lys His Phe Ala Gly Asn Asn Val Asp Val Ile		
1585	1590	1595
Ile Tyr Ala Val Glu Lys Ser Leu Asp Ser Tyr Lys Phe Asn Leu Leu		1600
1605	1610	1615
His Cys Lys Gln Thr Phe Ile Ser Gln Leu Lys Ser Gly Ala Met Glu		
1620	1625	1630
Ala Arg Thr Ile Asp Glu Gly Ala Met Asp Glu Lys Ser Gly Met Asn		
1635	1640	1645
Phe Ser Glu Tyr Met Ala Leu Leu Ser Gly Asn Thr Asp Leu Leu Asp		
1650	1655	1660
Lys Ala Lys Leu Glu Lys Arg Ile Ala Ser Leu Glu Gly Glu Arg Lys		
1665	1670	1675
Ser Phe Asn Lys Gly Lys Arg Asp Ser Glu Phe Lys Leu Glu Ser Lys		1680
1685	1690	1695
Thr Arg Glu Leu Gly Asn Asn Thr Ala Phe Ile Asp Ala Met Thr Glu		
1700	1705	1710
Asp Trp Asn Arg Phe Leu Ser Val Val Gln Thr Asp Lys Glu Gly Asn		
1715	1720	1725
His Leu Asn Ile Ile Lys Val Asp Gly Val Asp Ser Ala Asp Glu Lys		
1730	1735	1740
Val Ile Gly Lys Arg Leu Gln Glu Ile Ala Lys Asn Ala Thr Thr Gly		
1745	1750	1755
Gly Leu Tyr Thr Gln Val Gly Glu Phe Tyr Gly Phe Pro Ile Lys Val		1760
1765	1770	1775
Val Ser Glu Arg Ile Leu Lys Glu Gly Leu Glu Phe Thr Asp Asn Arg		
1780	1785	1790
Phe Val Val Glu Gly Asn Tyr Lys Tyr Thr Asn Asn Gly His Leu		
1795	1800	1805
Ala Leu Ala Asp Pro Leu Ala Ala Ala Arg Asn Phe Leu Asn Ala Ile		
1810	1815	1820
Glu Arg Ile Pro Ser Ile Ile Asp Gln Tyr Lys Ala Lys Asn Glu Val		
1825	1830	1835
Leu Glu Arg Glu Ile Pro Gln Leu Gln Glu Ile Ala Gly Lys Val Trp		1840
1845	1850	1855
Lys Lys Glu Glu Glu Leu Lys Gln Leu Lys Ser Glu Leu Ala Ala Leu		
1860	1865	1870

Asp Arg Lys Ile Gln Leu Glu Leu Ala Pro Pro Thr Pro Glu Ile Thr  
           1875                 1880                 1885  
 Glu Lys Glu His Glu Gly Gln Gln Val Lys Pro Glu Ala Lys Gly Val  
           1890                 1895                 1900  
 Arg Asn Gly Ile Arg Gln Tyr Pro Glu Asp Thr Ser Pro Gln Ile Arg  
           1905                 1910                 1915                 1920  
 Asn Pro Ser Glu Ser Ile Ile Ala Asn His Thr Ile Thr Gly His Pro  
           1925                 1930                 1935  
 Gly Leu Tyr Ala Lys Glu Glu Thr Arg Ser Lys Gly Leu Lys Ile  
           1940                 1945                 1950

<210> 6904

<211> 450

<212> PRT

<213> B.fragilis

<220>

<221> UNSURE

<222> (399)

<223> Identity of amino acid sequences at the above locations are unknown.

<400> 6904

Tyr Asp Met Ala Lys Ile Gln Ile Lys Ser Glu Lys Leu Thr Pro Phe  
 1              5                 10                 15  
 Gly Gly Ile Phe Ser Ile Met Glu Lys Phe Asp Ser Met Leu Ser Pro  
           20                 25                 30  
 Val Ile Asp Ser Thr Leu Gly Gln Arg Cys Ser Ser Ile Phe Gly Tyr  
           35                 40                 45  
 Gln Phe Ser Glu Ile Val Arg Ser Leu Met Ser Val Tyr Phe Cys Gly  
           50                 55                 60  
 Gly Ser Cys Val Glu Asp Val Thr Ser Gln Leu Met Arg His Leu Ser  
           65                 70                 75                 80  
 Tyr His Pro Thr Leu Arg Thr Cys Ser Ser Asp Thr Ile Leu Arg Ala  
           85                 90                 95  
 Ile Lys Glu Leu Thr Gln Glu Asn Ile Ser Tyr Thr Ser Asp Gln Gly  
           100                105                110  
 Lys Thr Tyr Asp Phe Asn Thr Ala Asp Lys Leu Asn Thr Leu Leu Ile  
           115                120                125  
 Asn Ala Leu Val Ser Thr Gly Glu Leu Lys Glu Ile Glu Glu Tyr Asp  
           130                135                140  
 Val Asp Phe Asp His Gln Phe Leu Glu Thr Glu Lys Tyr Asp Ala Lys  
           145                150                155                160  
 Pro Thr Tyr Lys Phe Leu Gly Tyr Arg Pro Gly Val Tyr Val Ile  
           165                170                175  
 Gly Asp Lys Ile Val Tyr Ile Glu Asn Ser Asp Gly Asn Thr Asn Val  
           180                185                190  
 Arg Phe His Gln Ala Asp Thr His Lys Arg Phe Phe Ala Leu Leu Glu  
           195                200                205  
 Ser Gln Asn Ile Arg Val Asn Arg Phe Arg Ala Asp Cys Gly Ser Cys  
           210                215                220  
 Ser Lys Glu Ile Val Ser Glu Ile Glu Lys His Cys Lys His Phe Tyr  
           225                230                235                240  
 Ile Arg Ala Asn Arg Cys Ser Ser Leu Tyr Asn Asp Ile Phe Ala Leu  
           245                250                255  
 Arg Gly Trp Lys Thr Glu Glu Ile Asn Gly Ile Gln Phe Glu Leu Asn  
           260                265                270  
 Ser Ile Leu Val Glu Lys Trp Glu Gly Lys Cys Tyr Arg Leu Val Ile  
           275                280                285  
 Gln Arg Gln Arg Arg Asn Ser Gly Asp Leu Asp Leu Trp Glu Gly Glu

290	295	300
Tyr Thr Tyr Arg Cys Ile Leu Thr Asn Asp Tyr Lys Ser Ser Thr Arg		
305	310	315
Asp Ile Val Glu Phe Tyr Asn Leu Arg Gly Gly Lys Glu Arg Ile Phe		320
325	330	335
Asp Asp Met Asn Asn Gly Phe Gly Trp Ser Arg Leu Pro Lys Ser Phe		
340	345	350
Met Ala Glu Asn Thr Val Phe Leu Leu Leu Thr Ala Leu Ile His Asn		
355	360	365
Phe Tyr Lys Thr Ile Met Ser Arg Leu Asp Thr Lys Ala Phe Gly Leu		
370	375	380
Lys Lys Thr Ser Arg Ile Lys Ala Phe Val Phe Arg Phe Ile Xaa Val		
385	390	395
Pro Ala Lys Trp Ile Met Thr Ala Arg Gln Tyr Val Leu Asn Ile Tyr		400
405	410	415
Thr Glu Asn Arg Ala Tyr Ala Lys Pro Phe Lys Thr Glu Phe Arg Leu		
420	425	430
Glu Ser Phe Leu Phe Arg Leu Asn Leu Arg Ile Thr Ser Ser Arg Ile		
435	440	445
Val Gly		
450		

&lt;210&gt; 6905

&lt;211&gt; 478

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6905

Tyr Leu Ile Tyr Met Glu Gln Thr Lys Asn Glu Pro Lys Asn Glu Asn		
1	5	10
Lys Ala Ala Pro Asp Asn Gly Lys Pro Lys Asn Arg Arg Gln Ala Glu		15
20	25	30
Ser His Gln Ala Cys Leu Asn Gly Gln Gly Ala Lys Glu Glu Gly Lys		
35	40	45
Ala Lys Glu Arg Lys Pro Leu Thr Glu Ala Gln Arg Leu Lys Arg Gln		
50	55	60
Lys Met Ile Val Leu Pro Ala Met Val Leu Val Phe Ile Gly Ala Met		
65	70	75
Trp Leu Ile Phe Ala Pro Ser Ser Asp Lys Glu Gln Gln Pro Gly Thr		80
85	90	95
Gly Gly Tyr Asn Ile Glu Met Pro Asp Ala Asp Lys Ala Asn Arg Gln		
100	105	110
Ile Ile Gly Asp Lys Ala Lys Ala Tyr Glu Gln Gly Ala Met Glu Glu		
115	120	125
Arg Gln Glu Asn Arg Ser Arg Ala Met Gln Glu Leu Gly Asp Met Phe		
130	135	140
Asp Arg Glu Val Ala Glu Thr Asp Gly Gly Arg Asp Phe Asp Leu Ala		
145	150	155
Asn Pro Gly Asn Ala Glu Glu Ala Thr Ser Thr Ser Ser Ala Pro Lys		160
165	170	175
Thr Ile Gln Ser Ser Ala Ala Ala Tyr Arg Asp Leu Asn Ala Thr Leu		
180	185	190
Gly Asn Phe Tyr Glu Gln Pro Lys Asn Asp Asn Thr Glu Met Asp Glu		
195	200	205
Leu Leu Glu Arg Ile Ala Ser Leu Glu Ser Glu Leu Glu Ser Glu Lys		
210	215	220
Gly Lys Ala Ser Ala Met Asp Asp Gln Val Ala Leu Met Glu Lys Ser		
225	230	235
Tyr Glu Leu Ala Ala Lys Tyr Met Gly Gly Gln Asn Asn Gly Lys Pro		240

245	250	255
Glu Pro Val Gln Ala Ala Glu Pro Tyr	Leu Val Gln Lys Thr	Gly Lys
260	265	270
Asn Thr Ala Ala Pro Val Arg Gln Val Thr His	Gln Val Val Ser Ser	
275	280	285
Leu Ser Gln Pro Met Ser Asn Ala Glu Phe Val Ala Ser Phe Ser Gln		
290	295	300
Glu Arg Asn Arg Ser Phe Asn Thr Ala Val Gly	Gly Thr Thr Val Ser	
305	310	315
Asp Lys Asn Thr Ile Ser Ala Cys Ile Tyr Gly	Ala Gln Ser Val Thr	
325	330	335
Asp Gly Gln Ala Val Lys Leu Arg	Leu Leu Glu Pro Met Ala Val Val	
340	345	350
Asp Arg Ile Ile Pro Arg Asn Ala Val Val Val	Gly Thr Ala Lys Ile	
355	360	365
Gln Gly Glu Arg Leu Asp Ile Gly Ile Thr Ser	Leu Glu Tyr Asp Gly	
370	375	380
Thr Ile Ile Pro Val Glu Leu Ser Val Tyr Asp	Thr Asp Gly Gln Pro	
385	390	395
Gly Ile Phe Ile Pro Asn Ser Met Glu Met Asn Ala Val Arg	Glu Val	
405	410	415
Ala Ala Asn Met Gly Gly Ser Leu Gly Ser Ser Ile Asn Ile Ser Thr		
420	425	430
Asn Ala Gly Ala Gln Leu Ala Ser Asp Leu Gly Lys	Gly Leu Ile Gln	
435	440	445
Gly Thr Ser Gln Tyr Ile Thr Lys Lys Met Arg	Thr Val Lys Val His	
450	455	460
Leu Lys Ala Gly Tyr Lys Val Met Leu Tyr Gln Asp Arg Asp		
465	470	475

&lt;210&gt; 6906

&lt;211&gt; 335

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6906

Pro Met Asn Phe Asp Asn Leu His Gln Ile	Leu Arg Ser Leu Tyr Glu		
1	5	10	15
Gln Met Met Pro Leu Cys Gly Asp Met Ala	Gly Val Ala Lys Gly Ile		
20	25	30	
Ala Gly Leu Gly Ala Leu Phe Tyr Val Ala	Tyr Arg Val Trp Gln Ser		
35	40	45	
Leu Ala Arg Ala Glu Pro Ile Asp Val Phe	Pro Met Leu Arg Pro Phe		
50	55	60	
Ala Ile Gly Leu Cys Ile Met Phe Phe	Pro Thr Val Val Leu Gly Thr		
65	70	75	80
Ile Asn Ser Ile Met Ser Pro Val Val Gln	Gly Thr Ala Lys Met Leu		
85	90	95	
Glu Thr Glu Thr Leu Asp Met Asn Arg	Tyr Arg Glu Gln Lys Asp Lys		
100	105	110	
Leu Glu Tyr Glu Ala Met Met Arg Asn	Pro Glu Thr Ala Tyr Leu Val		
115	120	125	
Ser Asn Glu Glu Phe Asp Lys Gln	Leu Glu Leu Gly Trp Ser Pro		
130	135	140	
Gly Asp Met Val Thr Met Ala Gly Met	Tyr Ile Glu Arg Gly Met Tyr		
145	150	155	160
Asn Met Lys Lys Gly Ile Arg Asp Phe	Phe Arg Glu Ile Leu Glu Leu		
165	170	175	
Met Phe Gln Ala Ala Leu Val Ile Asp Thr	Ile Arg Thr Phe Phe		

180	185	190
Leu Val Val	Leu Ala Ile Leu Gly	Pro Ile Ala Phe Ala Ile Ser Val
195	200	205
Trp Asp Gly Phe Gln Ser Thr	Leu Thr Gln Trp Ile Cys Arg Tyr Ile	
210	215	220
Gln Val Tyr Leu Trp Leu Pro Val Ser Asp Met	Phe Ser Thr Ile Leu	
225	230	235
Ala Lys Ile Gln Val Leu Met Leu Gln Ser Asp Ile Glu Arg Met Gln		
245	250	255
Ala Asp Pro Asn Phe Ser Leu Asp Ser Ser Asp Gly Val Tyr Ile Val		
260	265	270
Phe Met Ile Ile Gly Ile Ile Gly Tyr Phe Thr Ile Pro Thr Val Ala		
275	280	285
Gly Trp Ile Ile Gln Ala Gly Gly Met Gly Ser Tyr Gly Arg Asn Val		
290	295	300
Asn Gln Thr Ala Gly Arg Ala Gly Ser Met Ala Gly Ser Val Ala Gly		
305	310	315
Ala Thr Ala Gly Asn Val Val Gly Arg Ala Gly Lys Leu Leu Lys		
325	330	335

&lt;210&gt; 6907

&lt;211&gt; 375

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6907

Ile Glu Leu Tyr	Leu Leu Thr Glu Leu Gln Glu Trp Glu Ile Met Asn		
1	5	10	15
Tyr Ile Ala Ile Val Cys Trp Met	Leu Phe Gly Ser Val Leu Arg Leu		
20	25	30	
Cys Ala Gln Thr Cys Gly Ala Thr Tyr Ile Thr Glu Phe Gln Tyr Asp			
35	40	45	
Leu Lys Lys Arg Thr Asn Trp Cys Asn Leu Leu Arg Leu Asp Ala Tyr			
50	55	60	
Val Pro Ile Gly Thr Lys Gly Ile Leu Glu Phe Ala Ser Ile His Val			
65	70	75	80
Tyr Lys Thr Arg Pro Glu Arg Ile Ile Asn Asp Leu Gln Thr Phe Ser			
85	90	95	
Asn Ile Glu Glu Asp Asn Leu Pro Cys Ala Ile Ala Val Leu Gly Tyr			
100	105	110	
Thr Arg Leu Ile Gly Asn Ile Thr Leu Phe Ala Gly Ile Arg Asn Leu			
115	120	125	
Asn Glu Asp Tyr Phe Thr Thr Pro Cys Met Ser Leu Phe Thr Asn Ser			
130	135	140	
Ser Cys Gly Ile Phe Pro Thr Leu Ser Ala Asn Tyr Pro Ile Ala Asn			
145	150	155	160
Tyr Pro Leu Ala Ala Leu Cys Leu Asp Tyr Lys Met Thr Leu Gly Arg			
165	170	175	
Phe Gly Ile Glu Ser Ser Leu Tyr Asn Gly Lys Gly Tyr Asn Gly Trp			
180	185	190	
Ser Lys Gly Lys His Pro Phe Thr Phe Asn Pro Arg Lys Asp Gly Val			
195	200	205	
Phe Ser Ile Thr Glu Ile Asn Tyr Gln Thr Glu Tyr Gly Lys Cys Phe			
210	215	220	
Gly Gly Phe Ser Leu His Thr Asn Gly Asp Met Pro Asp Val Ala Gly			
225	230	235	240
Glu Trp Lys Thr Arg Glu Arg Glu Lys Lys Val Ser Pro Lys Met Met			
245	250	255	
Phe Ala Trp Trp Gly Tyr Ala Glu Arg Lys Leu Trp Ser Arg Val Arg			

260	265	270
Gln Glu Val Asn Leu Leu Val Gln	Tyr Thr Arg Thr Ser	Ser Val Phe
275	280	285
Ser Glu Cys Arg Asn Tyr Met Gly Ala Gly Val Thr Trp Ile Tyr Val		
290	295	300
Pro Gly Gly Gln Lys Arg His Glu Ala Gly Leu Phe Leu Ser Ala Ala		
305	310	315
Gln Phe Lys Ser Cys Asn Glu Val Ala Gly Glu Val Thr Tyr Arg Tyr		
325	330	335
Ser Phe Asn Arg Asp Thr Tyr Ile Gln Pro Ala Ile His Leu Ile Lys		
340	345	350
Asn Gly Gly Leu His Glu Val Phe Leu Ile Arg Met Gly Tyr Ile		
355	360	365
Leu Asn Gly Gly Arg Val Arg		
370	375	

&lt;210&gt; 6908

&lt;211&gt; 427

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6908

Arg Arg Ile Leu His Arg Leu Ile Leu Asn Leu Lys Lys Leu Arg Thr			
1	5	10	15
Met Lys Ser Thr Phe Ser Val Ile Tyr Tyr Leu Lys Arg Gln Val Val			
20	25	30	
Lys Lys Asp Gly Thr Val Pro Val Met Gly Arg Ile Thr Val Asp Gly			
35	40	45	
Ser Gln Thr Gln Phe Ser Cys Lys Leu Thr Val Asp Pro Lys Leu Trp			
50	55	60	
Asp Thr Lys Gly Gly Arg Val Thr Gly Arg Ser Thr Ala Ala Leu Glu			
65	70	75	80
Thr Asn Arg Met Leu Asp Lys Met Arg Val Arg Ile Asn Lys His Tyr			
85	90	95	
Gln Glu Ile Met Glu Arg Asp Asn Phe Val Thr Ala Glu Lys Val Lys			
100	105	110	
Asn Ala Phe Leu Gly Leu Glu His Arg Tyr His Thr Leu Leu Gln Val			
115	120	125	
Phe Arg Gln His Asn Glu Asp Tyr Ala Lys Gln Val Glu Ala Gly Met			
130	135	140	
Lys Ala Lys Gly Thr Phe Asp Lys Tyr Lys Ile Val Tyr Lys His Leu			
145	150	155	160
Gln Glu Phe Leu Thr Ile Arg Tyr His Val Lys Asp Ile Ala Leu Lys			
165	170	175	
Glu Leu Thr Pro Ala Phe Ile Ser Asp Phe Glu Met Phe Leu Arg Thr			
180	185	190	
Asp Lys His Cys Cys Thr Asn Thr Val Trp Leu Tyr Val Cys Pro Leu			
195	200	205	
Arg Thr Met Val Phe Ile Ala Ile Asn Asn Glu Trp Leu Thr Arg Asp			
210	215	220	
Pro Phe Arg Glu Tyr Glu Ile Lys Lys Glu Glu Thr Thr Arg Ser Phe			
225	230	235	240
Leu Thr Lys Asp Glu Ile Arg Leu Leu Met Glu Gly Lys Leu Lys Asn			
245	250	255	
Ala Lys Gln Glu Leu Tyr Arg Asp Leu Tyr Leu Phe Cys Ala Phe Thr			
260	265	270	
Gly Leu Ser Phe Ala Asp Met Arg Asn Leu Thr Glu Glu Asn Ile Arg			
275	280	285	
Thr Tyr Phe Asp Glu His Glu Trp Ile Asn Ile Asn Arg Gln Lys Thr			

290	295	300
Gly Val Val Ser Asn Ile Arg Met Leu Asp Ile Ala Lys Arg Ile Ile		
305	310	315
Asp Lys Tyr Arg Gly Leu Cys Glu Asn Gly Arg Ile Phe Pro Val Pro		320
325	330	335
His Tyr Asn Thr Cys Leu Ala Gly Ile Arg Ala Val Ala Lys Arg Cys		
340	345	350
Gly Ile Thr Lys His Ile Thr Trp His Gln Ser Arg His Thr Ala Ala		
355	360	365
Thr Thr Val Phe Leu Ser Asn Gly Val Pro Ile Glu Thr Val Ser Ser		
370	375	380
Met Leu Gly His Lys Ser Ile Lys Thr Thr Gln Ile Tyr Ala Lys Ile		
385	390	395
Thr Lys Glu Lys Leu Asn Gln Asp Met Glu His Leu Ala Ala Arg Leu		400
405	410	415
Asn Gln Ile Glu Glu Phe Ala Gly Cys Thr Ile		
420	425	

&lt;210&gt; 6909

&lt;211&gt; 61

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6909

Thr Ser Gly Tyr Arg Ser Glu Ile Gly Ile Val Thr Arg Pro Glu Asn			
1	5	10	15
Asp Ser Phe Gly Arg Ser Ala Asp Asn Ser Gly Thr His Val Ala Asp			
20	25	30	
Ile Val Lys Leu Asp Asp Ala Ser Val Thr Val Ser Pro Thr Val Tyr			
35	40	45	
Phe Arg Lys Phe Leu Tyr Trp Ile Gly Leu Thr Gly Lys			
50	55	60	

&lt;210&gt; 6910

&lt;211&gt; 84

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6910

Gly Cys Ser Leu Lys Tyr Glu Asn Thr Ala Asn Thr Lys Met Ala Lys			
1	5	10	15
Gln Pro Ile Ala Phe Lys Asn Phe Phe Ile Tyr Ser Val Val Leu Val			
20	25	30	
Thr His Asn Lys Tyr Arg Arg Phe Phe Leu Ser Ile Lys Lys Thr Phe			
35	40	45	
Leu Thr Lys Thr Tyr Lys Leu Lys Ile Asn Lys Met Pro Pro Tyr Lys			
50	55	60	
Asn Leu His Gln Lys Ser Ser Leu Cys Glu Lys Ser Ser Leu Ser Leu			
65	70	75	80
Gly Ser Thr Asn			

&lt;210&gt; 6911

&lt;211&gt; 114

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6911

Asn Pro Pro Leu His His Phe Ile Asp Gly Ile Leu Gly Cys Leu Pro

1	5	10	15
Cys Leu Val Ser Gly Leu Asp Glu Glu Ala Tyr His Leu Val Leu			
20	25	30	
Leu Ala Gly Arg Asp Asn Gly Glu Val Phe Val Leu Ala Glu Asn Ala			
35	40	45	
Leu Ser Gly Ala Gln Arg Phe Gln Leu His Thr Ala Met Gly Ala Gly			
50	55	60	
Thr Ser Ala Asn Gly Val Arg Lys Val Val Val Ala Leu Pro Arg Met			
65	70	75	80
Ser Ala Leu Gly Thr Asp Ile Arg Ala Val Arg Pro Leu Asp Cys Val			
85	90	95	
Met Leu Glu Ala Met Thr Glu Ser Val Cys Leu Leu Arg Gly Gly Gln			
100	105	110	
Ser Arg			

&lt;210&gt; 6912

&lt;211&gt; 66

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6912

Leu Arg Asp Leu Thr Gly Lys Gln Gly Gln Ala Ser Cys Phe Arg Glu			
1	5	10	15
Lys Ser Pro Ala Leu Arg Val Val Phe Phe Pro Lys Asn Leu Ala Phe			
20	25	30	
Pro Asn Pro Tyr Leu Phe Lys His Pro Lys Arg Lys Arg Pro Met Arg			
35	40	45	
Gln Lys Asp Ala Leu Lys Lys Met Ser Asp Lys Arg Glu Ala Asp Lys			
50	55	60	
Ile Val			
65			

&lt;210&gt; 6913

&lt;211&gt; 532

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6913

Asn Ile Phe Gln Met Ala Lys Lys Ser Glu Lys Asp Val Leu Ile			
1	5	10	15
Val Arg Asp Glu Lys Thr Gly Glu Ile Ser Val Val Ala Gly Leu Asp			
20	25	30	
Ala Asp Gly Ser Pro Lys Arg Thr Pro Ala Lys Ala Glu Asn Ala Gln			
35	40	45	
Ser Phe Leu Gln Phe Asp Arg His Gly Asp Val Leu Asp Asn Phe Phe			
50	55	60	
Lys Asn Phe Phe Arg Gln Cys Lys Glu Pro Ser Arg Phe Gly Phe Tyr			
65	70	75	80
Arg Val Ala Ala Asp Gln Ala Asp Lys Leu Met Glu Val Met Lys Asp			
85	90	95	
Leu Leu Lys Asp Pro Glu Ala Asn Lys Glu Leu Leu Ala Pro His Lys			
100	105	110	
Val Asp Thr Ser Gly Tyr Glu Lys Gln Val Lys Glu Glu Gln Thr Ala			
115	120	125	
Gly Lys Thr Glu Gln Thr Glu Gln Lys Gln Glu Glu Gln Pro Lys Glu			
130	135	140	
Asn Gln Lys Gln Glu Glu Met Glu Lys Lys Gln Glu Ser Pro Gln Gln			
145	150	155	160

Thr Gln Gly Arg Gln Gly Tyr Gln Pro Ile Asp Glu Ser Lys Ile Asn  
           165                 170                 175  
 Trp Gln Glu Leu Glu Glu Lys Trp Gly Val Lys His Asp Asp Leu Glu  
           180                 185                 190  
 Lys Ser Gly Asp Leu Gln Lys Met Leu Asn Tyr Gly Lys Ser Asp Leu  
           195                 200                 205  
 Val Lys Val Ser Pro Lys Phe Gly Gly Glu Ala Phe Glu Leu Asp Ala  
           210                 215                 220  
 Arg Leu Ser Phe Lys Lys Asp Gly Glu Gly Asn Val Ser Leu Val Pro  
           225                 230                 235                 240  
 His Phe Ile Arg Lys Glu Gln Lys Leu Asp Glu Tyr Lys Glu His Lys  
           245                 250                 255  
 Phe Ser Asp Glu Asp Arg Lys Asn Leu Arg Glu Thr Gly Asn Leu Gly  
           260                 265                 270  
 Arg Val Val Asp Ile Val Asp Arg Glu Thr Gly Glu Ile Ile Pro Ser  
           275                 280                 285  
 Phe Ile Ser Ile Asp Arg Lys Thr Asn Glu Ile Thr Asp Ile Pro Ala  
           290                 295                 300  
 Asn Lys Val Arg Ile Pro Asp Arg Ile Gly Lys Thr Glu Ile Thr Lys  
           305                 310                 315                 320  
 Gln Glu Gln Asp Met Leu Arg Ala Gly Leu Pro Val Arg Asp Lys Leu  
           325                 330                 335  
 Ile Glu Arg Asn Asp Gly Arg Lys Phe Val Thr Thr Leu Gln Val Asn  
           340                 345                 350  
 Val Glu Gln Arg Gly Val Glu Phe Val Pro Gly Thr Gly Arg Ser Pro  
           355                 360                 365  
 Arg Thr Ala Gln Thr Gln Glu Ala Lys Asn Asn Pro Thr Gln Gly Gln  
           370                 375                 380  
 Ala Gln Gly Met Glu Asn Ser Ala Ala Pro Gln Lys Glu Gln Arg Arg  
           385                 390                 395                 400  
 Asn Thr Trp Thr Asn Ala Asp Gly Ser Ile Arg Pro Ile Ser Lys Trp  
           405                 410                 415  
 Ser Gly Val Asn Phe Thr Asp Gln Gln Lys Ala Asp Tyr Ala Ala Gly  
           420                 425                 430  
 Lys Ala Ile Lys Leu Glu Asn Val Thr Asp Lys Gln Gly Phe His Ala  
           435                 440                 445  
 Thr Met Tyr Ile Lys Phe Asn Pro Glu Lys Gly Arg Pro Tyr Arg Tyr  
           450                 455                 460  
 Asp Thr Asn Pro Asp Asn Ala Gln Lys Val Ala Pro Ser Asn Glu Ser  
           465                 470                 475                 480  
 Arg Thr Gln Val Ala Val Asn Ser Glu Gly Lys Thr Asn Glu Ala Thr  
           485                 490                 495  
 Lys Asn Leu Lys Glu Pro Leu Gln Lys Gly Gln Thr Ala Pro Lys Asp  
           500                 505                 510  
 Asp Lys Gln Gln Lys Leu Gln Glu Lys Pro Gln Lys Lys Ile Ile Lys  
           515                 520                 525  
 Gly Met Lys Met  
           530

&lt;210&gt; 6914

&lt;211&gt; 785

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6914

Thr Phe Ile His Val Pro Lys Ile Asn Val Ile Lys Ile Met Glu Arg		
1                  5                 10                 15		

Ser Gly Asn Phe Tyr Lys Ala Ile Gln Leu Gly Tyr Ile Leu Ile Ser		
20                 25                 30		

Ile Leu Ile Gly Cys Met Ala Tyr Asn Ser Leu Tyr Glu Trp Gln Glu  
     35                40                45  
 Ile Glu Ala Leu Glu Leu Gly Asn Lys Lys Ile Asp Glu Leu Arg Lys  
     50                55                60  
 Glu Ile Asn Asn Ile Asn Ile Gln Met Ile Lys Phe Ser Leu Leu Gly  
     65                70                75                80  
 Glu Thr Ile Leu Glu Trp Asn Asp Lys Asp Ile Glu His Tyr His Ala  
     85                90                95  
 Arg Arg Met Ala Met Asp Ser Met Leu Cys Arg Phe Lys Ala Thr Tyr  
     100               105               110  
 Pro Ala Glu Arg Ile Asp Ser Val Arg Ser Leu Leu Glu Asp Lys Glu  
     115               120               125  
 Arg Gln Met Phe Gln Ile Val Arg Leu Met Asp Glu Gln Gln Ser Ile  
     130               135               140  
 Asn Lys Lys Ile Ala Asn Gln Ile Pro Val Ile Val Gln Lys Ser Val  
     145               150               155               160  
 Gln Glu Gln Ser Lys Lys Pro Lys Arg Lys Gly Phe Leu Gly Ile Phe  
     165               170               175  
 Gly Lys Lys Glu Gly Thr Lys Pro Thr Thr Thr Thr Leu Arg  
     180               185               190  
 Ser Ser Asn Arg Asn Met Val Asn Glu Gln Lys Ala Gln Ser Arg Arg  
     195               200               205  
 Leu Ser Glu Gln Ala Asp Ser Leu Ala Ala Arg Asn Ala Glu Leu Asn  
     210               215               220  
 Arg Gln Leu Gln Gly Leu Ile Cys Gln Ile Glu Lys Lys Val Gln Ser  
     225               230               235               240  
 Asp Leu Gln Asn Arg Glu Ser Glu Ile Thr Ala Met Arg Lys Lys Ser  
     245               250               255  
 Phe Met Gln Ile Gly Gly Leu Met Gly Phe Val Leu Leu Leu Val  
     260               265               270  
 Ile Ser Tyr Ile Ile Ile His Arg Asp Ala Lys Asn Ile Lys Arg Tyr  
     275               280               285  
 Lys Arg Lys Thr Thr Asp Leu Ile Glu Gln Leu Glu Gln Ser Val Gln  
     290               295               300  
 Gln Asn Glu Val Leu Ile Thr Ser Arg Lys Lys Ala Val His Thr Ile  
     305               310               315               320  
 Thr His Glu Leu Arg Thr Pro Leu Thr Ala Ile Thr Gly Tyr Thr Glu  
     325               330               335  
 Leu Leu Arg Lys Glu Cys Asn Ser Gly Asn Asn Gly Gln Tyr Ile Arg  
     340               345               350  
 Asn Ile Leu Gln Ser Ser Asp Arg Met Arg Asp Met Leu Asn Thr Leu  
     355               360               365  
 Leu Asp Phe Phe Arg Leu Asp Asn Gly Lys Glu Gln Pro Arg Leu Ser  
     370               375               380  
 Pro Cys Arg Ile Ser Ala Ile Thr His Thr Leu Glu Thr Glu Phe Ile  
     385               390               395               400  
 Pro Val Ala Val Asn Lys Gly Leu Ser Leu Ser Val Lys Thr Gly His  
     405               410               415  
 Asp Ala Ile Val Leu Thr Asp Lys Glu Arg Ile Ile Gln Ile Gly Asn  
     420               425               430  
 Asn Leu Leu Ser Asn Ala Val Lys Phe Thr Glu Glu Gly Val Ser  
     435               440               445  
 Leu Ile Thr Glu Tyr Asp Asn Gly Val Leu Thr Leu Val Val Glu Asp  
     450               455               460  
 Thr Gly Thr Gly Met Thr Glu Glu Gln Lys Gln Ala Phe Gly Ala  
     465               470               475               480  
 Phe Glu Arg Leu Ser Asn Ala Ala Lys Glu Gly Phe Gly Leu Gly  
     485               490               495  
 Leu Ala Ile Met Arg Asn Ile Val Ser Met Leu Gly Gly Thr Ile Arg

500	505	510
Leu Asp Ser Lys Lys Gly Lys	Ser Arg Phe Thr Val	Glu Ile Ser
515	520	525
Met Gln Glu Ala Glu Glu Gln	Gly Tyr Thr	Ser Asn Thr Pro Val
530	535	540
Tyr His Asn Asn Lys Phe His	Asp Val Val Ala Ile	Asp Asn Asp Glu
545	550	555
Val Leu Leu Leu Met Leu Lys	Glu Met Tyr Ser Gln	Glu Gly Ile His
565	570	575
Cys Asp Thr Cys Thr Asp Ala	Ala Glu Leu Met	Glu Met Ile Arg Gln
580	585	590
Lys Glu Tyr Ser Leu Leu Leu	Thr Asp Leu Asn Met	Pro Gly Ile Asn
595	600	605
Gly Phe Glu Leu Leu Glu	Leu Arg Ser Ser Asn Val	Gly Asn Ser
610	615	620
Pro Thr Ile Pro Val Val Ala	Thr Ala Ser Gly Ser Cys Asn	Lys
625	630	635
Gly Glu Leu Leu Ala Lys	Gly Phe Ala Gly Cys	Leu Phe Lys Pro Phe
645	650	655
Ser Ile Ser Glu Leu Met	Glu Val Ser Asp Arg Cys	Ala Ile Lys Glu
660	665	670
Thr Pro Asp Gly Lys Pro	Asp Phe Ser Ala Leu	Leu Ser Tyr Gly Asn
675	680	685
Glu Ala Val Met Leu Glu	Lys Leu Met Thr Glu	Thr Glu Lys Glu Met
690	695	700
Gln Thr Ile Arg Glu Ala	Ala Thr Glu Lys Asp	Leu Gln Lys Leu Asp
705	710	715
Ser Leu Thr His His Leu	Arg Ser Ser Trp Glu	Val Leu Arg Ala Asp
725	730	735
Gln Pro Leu Asn Val Leu	Tyr Arg Leu Leu His	Gly Asp Val Leu Pro
740	745	750
Asp Gly Glu Ala Leu Ser	His Ala Val Thr Ala Val	Leu Asp Lys Gly
755	760	765
Ala Glu Ile Ile Arg Leu	Ala Glu Glu Arg Arg	Lys Tyr Glu Asp
770	775	780
Gly		
785		
<210> 6915		
<211> 138		
<212> PRT		
<213> B.fragilis		
<400> 6915		
Lys Gln Ile His Gln Leu	Lys Lys Met Arg	Met Ser Ile Ser Arg
1	5	10
Thr Lys Met Leu Gln Val	Ser Lys Cys	Leu Ile Gly Leu Ala Val Met
20	25	30
Met Leu Gln Ser Cys Asp	Val Ala Asp Asn Arg	Arg Asp Leu Leu Cys
35	40	45
Gly Asn Trp Glu Ser Val	Glu Gly Lys Pro Asp	Val Leu Ile Tyr Lys
50	55	60
Glu Gly Glu Ala Tyr	Lys Val Thr Val Phe	Lys Arg Ser Gly Leu Arg
65	70	75
Arg Lys Leu Lys Pro	Glu Thr Tyr Leu	Leu Gln Glu Glu Asn Gly Asn
85	90	95
Leu Phe Met Asn Thr	Gly Phe Arg Ile	Asp Val Ser Tyr Asn Glu Ala
100	105	110
Thr Asp Ile Leu Thr	Phe Ser Pro Asn	Gly Asp Tyr Val Arg Val Asn

115	120	125
Pro Lys Pro Asp His Pro Ile Gly Glu Gln		
130	135	

<210> 6916  
<211> 133  
<212> PRT  
<213> B.fragilis

<400> 6916

Phe	Glu	Thr	Gln	Leu	Pro	Gln	Leu	Leu	Asn	Pro	His	Lys	Lys	Ile	Lys
1				5				10						15	
Ile	Lys	Asn	Arg	Thr	Asp	Met	Gly	Thr	Thr	Met	Ala	Thr	Lys	Phe	Val
				20				25						30	
Ala	Trp	Glu	Val	Pro	Thr	Leu	Glu	Ala	Leu	Lys	Gly	Ser	Lys	Val	Tyr
		35					40						45		
Ile	Leu	Arg	Glu	Lys	Leu	Asn	Asn	Gly	Gly	Gln	Met	Asn	Arg	Glu	Glu
		50				55							60		
Lys	Asp	Trp	Leu	Thr	Arg	Asn	Val	Asn	Ser	Asn	Thr	Tyr	Phe	Lys	Ser
	65				70					75				80	
Ala	Val	Pro	Leu	Gln	Gly	Trp	Arg	Phe	Asp	Phe	Ser	Asp	Val	Leu	Arg
			85					90						95	
Thr	Phe	Ile	Val	Cys	Gln	Tyr	Gly	His	Trp	Thr	Glu	Tyr	Lys	Ala	Thr
		100						105					110		
Asp	Lys	Thr	Gly	Leu	Arg	Arg	Tyr	Leu	Tyr	Gly	Arg	Ile	Asp	Asn	Ile
		115						120					125		
Val	Glu	Leu	Glu	Lys											
	130														

<210> 6917  
<211> 174  
<212> PRT  
<213> B.fragilis

<400> 6917

Leu	Lys	Asn	Gln	Met	Thr	Met	Asn	Ile	Leu	Asn	Asn	Lys	Asn	Lys	Arg
1					5				10					15	
Ile	Ser	Ile	Phe	Lys	Ala	Leu	Ala	Leu	Cys	Leu	Phe	Ala	Ala	Val	Ser
					20			25					30		
Leu	Thr	Leu	Val	Ser	Cys	Asp	Asp	Asp	Met	Asp	Ile	Gln	Gln	Ser	Tyr
			35			40						45			
Pro	Phe	Thr	Val	Glu	Ile	Met	Pro	Val	Pro	Asn	Lys	Val	Thr	Lys	Gly
	50					55						60			
Gln	Thr	Val	Glu	Ile	Arg	Cys	Glu	Leu	Lys	Lys	Thr	Gly	Asp	Tyr	Ala
	65				70				75				80		
Asn	Thr	Leu	Tyr	Thr	Ile	Arg	Tyr	Phe	Gln	Phe	Glu	Gly	Glu	Gly	Thr
			85					90					95		
Leu	Lys	Met	Asp	Asn	Gly	Ile	Thr	Phe	Leu	Pro	Asn	Asp	Arg	Tyr	Leu
		100					105						110		
Leu	Glu	Asn	Glu	Lys	Phe	Arg	Leu	Tyr	Tyr	Thr	Ala	Ala	Gly	Glu	Glu
		115				120						125			
Ala	His	Asn	Phe	Ile	Val	Val	Val	Glu	Asp	Asn	Phe	Asp	Asn	Ser	Tyr
		130				135						140			
Glu	Leu	Glu	Phe	Asp	Phe	Asn	Asn	Arg	Asn	Val	Lys	Asp	Asp	Gly	Ala
	145				150					155				160	
Ile	Ser	Val	Val	Pro	Ile	Gly	Asn	Phe	Lys	Pro	Leu	Thr	Arg		
			165					170							

<210> 6918

<211> 150  
<212> PRT  
<213> B.fragilis

<400> 6918

Gly	Leu	Lys	His	Leu	Ser	Ile	Tyr	Gly	Ser	Gly	Asn	Thr	Thr	Phe	Thr
1				5					10					15	
Asn	Gly	Ile	Lys	Ser	His	Asp	Glu	Leu	Gln	Met	Ser	Ile	Tyr	Gly	Ser
					20			25					30		
Gly	Asn	Ile	Ser	Gly	Asn	Ser	Phe	Ser	Cys	Thr	Lys	Leu	Ala	Ala	Arg
					35			40				45			
Ile	Tyr	Gly	Ser	Gly	Asn	Val	Asn	Leu	Lys	Arg	Ile	Ser	Thr	Ser	Asp
					50			55				60			
Thr	Gln	Val	Asn	Ile	Ser	Gly	Ser	Gly	Asn	Val	Leu	Leu	Asp	Gly	Lys
					65			70			75		80		
Ser	Thr	Glu	Ala	Glu	Tyr	His	Ile	Ala	Gly	Ser	Gly	Asp	Ile	Asn	Ala
					85				90			95			
Thr	Glu	Leu	Lys	Val	Glu	Asn	Val	Asn	Ala	Arg	Ile	Ser	Gly	Ser	Gly
					100			105				110			
Ser	Ile	Arg	Cys	Tyr	Ala	Thr	Glu	Asn	Leu	Thr	Gly	Gly	Val	Ser	Gly
					115			120			125				
Ser	Gly	Asn	Val	Ala	Tyr	Lys	Gly	Asn	Pro	Gln	Ile	Asn	Phe	Ser	Lys
					130			135			140				
Arg	Gly	Leu	Gln	Lys	Leu										
					145			150							

<210> 6919  
<211> 433  
<212> PRT  
<213> B.fragilis

<400> 6919

Phe	Leu	Met	Gln	Gln	Asn	Asn	Ser	Glu	Lys	Trp	Asn	Phe	Leu	Ser	Asn
1					5				10				15		
Lys	Lys	Leu	Phe	Trp	Gly	Thr	Ile	Ile	Val	Ile	Leu	Phe	Leu	Phe	Leu
					20			25			30				
Leu	Ser	Ala	Trp	Leu	Phe	Phe	Trp	Asn	Arg	Glu	Arg	His	Phe	Phe	Asn
					35			40			45				
Asp	Asn	Tyr	Val	Leu	Asp	Asn	Ala	Leu	Trp	Gly	Thr	Leu	Gly	Asp	Phe
					50			55			60				
Val	Gly	Gly	Phe	Ile	Gly	Ser	Ile	Leu	Ala	Phe	Ile	Gly	Val	Ile	Val
					65			70			75		80		
Thr	Cys	Gln	Ile	Phe	Ile	Glu	Gln	Arg	Gln	Gln	Thr	Ile	Asp	Leu	Asn
					85			90			95				
Glu	Glu	Gln	Lys	Arg	Ile	Thr	Ser	Asn	Ser	Gln	Lys	Ser	Gln	Ile	Asn
					100			105			110				
Gln	Ser	Glu	Ile	Gln	Arg	Phe	Asn	Ser	Leu	Phe	Phe	Glu	Leu	Ile	Asp
					115			120			125				
Leu	His	Arg	Thr	Gln	Val	Asp	Tyr	Leu	Met	Lys	Met	Pro	Leu	Val	Gly
					130			135			140				
Phe	Glu	Ala	Glu	Asn	Ser	Lys	Glu	Thr	Asn	Phe	Phe	Asp	Arg	Phe	Met
					145			150			155		160		
Glu	Glu	Leu	His	Ser	Asn	Ser	Asn	Val	Asn	Ser	Ser	Tyr	Ala	Arg	Ala
					165				170			175			
Phe	Ile	Val	Ala	Lys	Arg	Lys	Tyr	Leu	Gln	Leu	Tyr	Leu	Ser	Asn	Ser
					180			185			190				
Thr	Ile	Leu	Ala	Pro	Tyr	Phe	Arg	Val	Leu	Tyr	Arg	Leu	Phe	Glu	Leu
					195			200			205				
Ile	Asp	Lys	Ala	Asn	Ile	Glu	Glu	Lys	Glu	Lys	Val	Arg	Tyr	Ala	Lys

210	215	220
Ile Ala Arg Ala Gln Leu Ser Glu Ser Glu Leu Phe Ile Leu Arg Tyr		
225	230	235
Asn Ser Ala Asn Leu Tyr Gly Asp Asn Phe Ile Glu Tyr Ile Asn Lys		240
245	250	255
Phe Arg Leu Leu Lys His Leu Pro Leu Leu Ser Leu Leu Glu Phe Lys		
260	265	270
Asn Ile Arg Asn Val Ile Ala Glu Gly Asp Ser Leu Tyr Gln Tyr Ser		
275	280	285
Ile Asn Met Leu Phe Phe Ser Val Trp Lys Arg Ile Tyr Asn Ile Thr		
290	295	300
Val Gly His Glu Asp Arg Thr Asn Asp Phe Val Gln Leu Tyr Asp Glu		
305	310	315
Arg Lys Arg Tyr Lys Phe Glu Leu Lys Met Pro Lys Lys His Arg Thr		320
325	330	335
Ala Leu Tyr Leu Thr Ile Asp Thr Ser Arg Pro Asn Arg Asp Pro Leu		
340	345	350
Leu Lys Cys Phe Arg Asn Phe Asn Glu Ser Asp Phe Gly Lys Leu Leu		
355	360	365
Thr Asn Phe Leu Leu Glu Ile Tyr Lys Tyr Ser Asn Phe Ser Arg Tyr		
370	375	380
Asn Lys Asp Glu Asn Ile Glu Tyr His Lys Lys Val Phe His Asp Gly		
385	390	395
Ser Val Thr Lys Ile Val Cys Trp Ile Leu Asn Thr Glu Asn Lys Leu		400
405	410	415
Leu Arg Val Ser His Pro Ser Arg Asp Lys Phe Tyr Gly Ile Ser Glu		
420	425	430
Asp		

&lt;210&gt; 6920

&lt;211&gt; 386

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6920

Pro Asn Met Gln Glu Thr Asn Ser Lys Ile Asn Lys Tyr Asp Tyr Leu		
1	5	10
Ile Val Gly Ala Gly Leu Phe Gly Ser Val Phe Ala His Glu Ala His		15
20	25	30
Lys Arg Asn Lys Arg Cys Leu Val Leu Glu Lys Arg Pro Trp Thr Gly		
35	40	45
Gly Asn Ile Tyr Cys Glu Asn Ile Asn Glu Ile His Val His Lys Tyr		
50	55	60
Gly Ala His Ile Phe His Thr Asp Lys Lys Ile Trp Asp Tyr Val		
65	70	75
80		
Asn Ser Leu Val Glu Phe Asn Gln Phe Ile Asn Ser Pro Leu Ala Ser		
85	90	95
Ser Gly Gly Lys Leu Tyr Asn Leu Pro Phe Asn Met Asn Thr Phe Tyr		
100	105	110
Gln Leu Trp Gly Val Gln Thr Pro Met Glu Ala Glu Ile Lys Leu Glu		
115	120	125
Glu Gln Arg His Pro Tyr Arg Ile Ile Thr Asn Pro Gln Asn Leu Glu		
130	135	140
Glu Gln Ala Leu Lys Ile Cys Gly Ser Asp Ile Tyr Tyr Arg Leu Ile		
145	150	155
160		
Lys Gly Tyr Thr Glu Lys Gln Trp Gly Arg Ala Ala Thr Lys Leu Pro		
165	170	175
Ala Phe Ile Val Lys Arg Ile Pro Phe Arg Phe Thr Phe Asp Asn Asn		

180	185	190
Tyr Phe Asn Asp Pro Tyr Gln Gly	Ile Pro Ile Gly Gly	Tyr Asn Arg
195	200	205
Leu Ile Asn Ala Leu Leu Glu Gly	Ile Glu Val Lys Thr Asn Ile Asn	
210	215	220
Tyr Leu Glu Asn Arg Asn Lys Trp Asp Ser Ile Ala Glu Lys Val Leu		
225	230	235
Phe Thr Gly Cys Ile Asp Glu Tyr Phe Asn Phe Cys Tyr Gly Lys Leu		
245	250	255
Glu Tyr Arg Ser Leu Arg Phe Glu Thr His Cys Leu Asn Asp Ile Ser		
260	265	270
Asn Tyr Gln Gly Asn Ala Val Ile Asn Tyr Cys Asp Ser Asn Ile Pro		
275	280	285
Tyr Thr Arg Val Ile Glu His Lys His Phe Glu Phe Gly Thr Gln Asn		
290	295	300
Ser Thr Ile Ile Thr Tyr Glu Phe Pro Glu Glu Leu Ser Ile Gly Lys		
305	310	315
320		
Glu Pro Tyr Tyr Pro Ile Asn Asp Glu Lys Asn Thr Thr Ile Phe Arg		
325	330	335
Lys Tyr Gln Thr Leu Ala Glu Thr Asn Lys Lys Val Leu Leu Gly Gly		
340	345	350
Arg Leu Ala Gln Tyr Thr Tyr Ala Asp Met Asp Asp Thr Val Glu Ala		
355	360	365
Ala Leu Ser Leu Trp Asn Lys Glu Leu Gln Asn Ser Ser Gln Thr Lys		
370	375	380
Leu Ile		
385		

&lt;210&gt; 6921

&lt;211&gt; 246

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6921

Lys Arg Thr His Met Asn Gly Thr Ile Ser Met Thr Asp Ile Leu Leu		
1	5	10
15		
Ala Val Ser Val Gly Cys Asn Leu Trp Phe Leu Phe Leu Leu Tyr		
20	25	30
Asp Arg Ile Met Glu Thr Arg Phe Val Arg Phe Leu Lys Gly Ile Ala		
35	40	45
Gly Leu Trp Arg Ser Leu Asp Gly Met Ala Ala Lys Gln Glu Thr Val		
50	55	60
Arg Glu Ala Ser Pro Ala Glu Thr Ser Asp Ile Ile Gly Lys Ser Arg		
65	70	75
80		
Phe Arg Met Ala Ser Thr Arg Thr Thr Ala Ala Ile Pro Thr Gln Glu		
85	90	95
Ala Ala Thr Ser Glu Lys Gly Ile Glu Leu Ser Glu Glu Ala Thr		
100	105	110
Phe Asp Asp Gly Asn Thr Glu Thr Val Ser His Pro Ala Gln Val Pro		
115	120	125
Glu Glu Lys Leu Asp Glu Thr Phe Thr Ser Ile Pro Pro Ser Glu Leu		
130	135	140
Glu Phe Gly Glu Asp Glu Pro Glu Asp Gly Thr Pro Asp Thr Pro Arg		
145	150	155
160		
Ala Thr Gly Ser Ser Phe Asp Glu Ile Asp Asp Ala Val Arg Ala Ala		
165	170	175
Lys Asn Pro Glu Ala Thr Thr Ala Glu Arg Glu Arg Ala Ala Lys Val		
180	185	190
Phe Ser Asp Met Glu Gly Thr Glu Leu Tyr Glu Lys Leu Met Ser Gly		

195	200	205
Ser Thr Glu Leu Ser Ile Arg Ile Lys Gly Leu Ile Glu Val Arg Leu		
210	215	220
Lys Lys Pro Lys Lys Glu Phe Thr Val Pro Asp Asn Ile Asp Glu Phe		
225	230	235
Asn Ile Arg Asp Tyr Val		
	245	

<210> 6922

<211> 83

<212> PRT

<213> B.fragilis

<400> 6922

Val Pro Glu Gln Gln Lys Val Ala Gln Asp Phe Ala Met Ser Glu Phe		
1	5	10
Ser Leu Ile Leu Val Leu Gln Lys Glu Asn Lys Gln Asn Ser Asn Met		
20	25	30
Thr Trp Gln Lys Tyr Lys Leu Asn Leu Arg Asn Ser His Leu Leu Glu		
35	40	45
Glu Phe Phe Gln Ser Trp Arg Asn Leu Thr Pro Cys Phe His Pro Leu		
50	55	60
Ser Thr Gln His Trp Val Arg Asp Ala Ala Val Ser Ser Asp Ile Ser		
65	70	75
Ser Ala Arg		80

<210> 6923

<211> 452

<212> PRT

<213> B.fragilis

<400> 6923

Ser Gly Trp Gln Lys Arg Lys Gly Glu Asn Thr Lys Met Asp Lys Thr		
1	5	10
Thr Ile Ile Val Val Glu Asp Asn Ile Val Tyr Cys Glu Phe Val Cys		
20	25	30
Asn Met Leu Ala Arg Glu Gly Tyr Arg Thr Val Lys Ala Tyr His Leu		
35	40	45
Ser Thr Ala Lys Lys His Leu Gln Gln Ala Thr Asp Asn Asp Ile Val		
50	55	60
Val Ala Asp Leu Arg Leu Pro Asp Gly Asn Gly Ile Asp Leu Leu Arg		
65	70	75
Trp Met Arg Lys Glu Gly Lys Met Gln Pro Phe Ile Ile Met Thr Asp		
85	90	95
Tyr Ala Glu Val Asn Thr Ala Val Glu Ser Met Lys Leu Gly Ser Ile		
100	105	110
Asp Tyr Ile Pro Lys Gln Leu Val Glu Asp Lys Leu Val Pro Leu Ile		
115	120	125
Arg Ser Ile Leu Lys Glu Arg Gln Ala Gly Gln Arg Arg Met Pro Val		
130	135	140
Phe Ala Arg Asp Gly Ser Ala Phe Gln Lys Ile Met His Arg Ile Arg		
145	150	155
Leu Val Ala Ala Thr Asp Met Ser Val Met Ile Phe Gly Glu Asn Gly		
165	170	175
Thr Gly Lys Glu His Ile Ala His His Leu His Asp Lys Ser Lys Arg		
180	185	190
Ala Val Lys Pro Phe Val Ala Val Asp Cys Gly Ser Leu Thr Lys Glu		
195	200	205

Leu Ala Pro Ser Ala Phe Phe Gly His Val Lys Gly Ala Phe Thr Gly  
 210 215 220  
 Ala Asp Cys Ala Lys Lys Gly Tyr Phe His Glu Ala Glu Gly Gly Thr  
 225 230 235 240  
 Leu Phe Leu Asp Glu Val Gly Asn Leu Ala Leu Glu Thr Gln Gln Met  
 245 250 255  
 Leu Leu Arg Ala Ile Gln Glu Arg Arg Tyr Arg Pro Val Gly Asp Lys  
 260 265 270  
 Ala Asp Arg Ser Phe Asn Val Arg Ile Ile Ala Ala Thr Asn Glu Asp  
 275 280 285  
 Leu Glu Ala Ala Val Ser Glu Lys Arg Phe Arg Gln Asp Leu Leu Tyr  
 290 295 300  
 Arg Leu His Asp Phe Gly Ile Thr Val Pro Pro Leu Arg Asp Cys Gln  
 305 310 315 320  
 Glu Asp Ile Met Pro Leu Ala Glu Phe Phe Arg Glu Ala Ala Asn Lys  
 325 330 335  
 Glu Leu Glu Cys Asp Val Ile Gly Phe Asp Gly Glu Ala Arg Lys Thr  
 340 345 350  
 Leu Leu Thr His Val Trp Pro Gly Asn Val Arg Glu Leu Arg Gln Lys  
 355 360 365  
 Ile Met Gly Ala Val Leu Gln Ala Gln Thr Gly Leu Val Thr Lys Glu  
 370 375 380  
 His Leu Glu Leu Ala Val Thr Lys Pro Thr Ser Pro Val Ser Phe Ala  
 385 390 395 400  
 Leu Arg Asn Asp Ala Glu Asp Lys Glu Arg Ile Leu Arg Ala Leu Lys  
 405 410 415  
 Gln Ala Asn Gly Asn Arg Lys Val Ala Ala Glu Leu Leu Gly Ile Gly  
 420 425 430  
 Arg Thr Thr Leu Tyr Ser Lys Leu Glu Glu Tyr Gly Leu Lys Tyr Lys  
 435 440 445  
 Phe Arg Gln Ser  
 450

&lt;210&gt; 6924

&lt;211&gt; 433

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6924

Phe Leu Phe Asn Ile Cys Tyr Met Arg Ser Leu Phe Leu Ile Phe Phe  
 1 5 10 15  
 Phe Cys Tyr Val Thr Gly Lys Ala Gln Asp Arg Ala Cys Val Val Ser  
 20 25 30  
 Glu Lys Asp Ser Ile Pro Leu Ser Asn Val Tyr Ile Cys Leu Lys Asp  
 35 40 45  
 Arg Arg Val Ile Ala Ile Ser Asp Glu Lys Gly Val Phe Ser Leu Glu  
 50 55 60  
 Lys Tyr Asp Ser Leu Ser Leu Asn Asp Thr Leu Tyr Phe Ser His Ile  
 65 70 75 80  
 Asn Tyr Leu His Lys Lys Leu Ser Tyr Gly Asp Leu Ile Lys Asn Arg  
 85 90 95  
 Cys Thr Val Phe Leu Ile Glu Asn Asn Arg Val Leu Glu Glu Val Ser  
 100 105 110  
 Ile Phe Ser Asn Arg His Leu Asn Arg Phe Leu His Tyr Glu Ile Leu  
 115 120 125  
 Ser Pro Leu Lys Arg Gly Val Tyr Ser Phe Ala Ser Val Leu Val Asp  
 130 135 140  
 Gly Gln Ile Tyr Ile Val Gly Gly Ser Thr Ser Cys Gly Pro Phe Gln  
 145 150 155 160

Ser Asn Ile Arg Ser Thr Leu Phe Trp Glu Lys Tyr Ser Asn Met Met  
           165                 170                 175  
 Tyr Arg Tyr Asp Ile Lys Gln Asp Lys Trp Glu Thr Ile Arg His Lys  
           180                 185                 190  
 Phe Arg Glu Arg Ala Tyr His Thr Ala Gly Tyr Tyr Asp Gly Lys Ile  
           195                 200                 205  
 Phe Ile Leu Gly Gly Lys Arg Leu Ser Glu Thr Arg Ile Val Asp Tyr  
           210                 215                 220  
 Leu Asp Asn Ala Ile Glu Ile Tyr Asp Ile Lys Arg Asp Thr Val Trp  
           225                 230                 235                 240  
 Thr Asp Tyr Thr Asn Pro His Gln Ala Thr Leu Leu Gly Ser Val Val  
           245                 250                 255  
 Tyr Lys Asp Asn Met Ile Val Leu Gly Gly Val Lys Lys Val Leu Gln  
           260                 265                 270  
 Asn Asn Glu Gly Val Tyr Ser Asp Glu Met His Leu Trp Asn Leu Lys  
           275                 280                 285  
 Ser Gly Tyr Trp Tyr Glu Leu Gly Lys Met Pro Ile Arg Gln Ala Pro  
           290                 295                 300  
 Glu Thr Ile Leu Val Asp His Cys Ile Tyr Leu Ile Gly Asn Arg Asn  
           305                 310                 315                 320  
 Gly Gly Trp Ser Ile Glu Cys Tyr Asn Leu Leu Thr Gly Ala Trp  
           325                 330                 335  
 Thr Asn Ala Gly His Leu Leu Tyr Arg Leu Gly Trp Pro Ser Leu Ala  
           340                 345                 350  
 Tyr His Asn Asp Ile Ile Tyr Ile Phe Glu Gln Gly Val Val Gln Thr  
           355                 360                 365  
 Phe Asn Ile Lys Ser Arg Gln Val Arg Ser Tyr Met Ile Asp Leu Lys  
           370                 375                 380  
 Leu Lys Ser Pro Ala Leu Tyr Tyr Phe Asp Gly Lys Leu Tyr Ile Leu  
           385                 390                 395                 400  
 Gly Gly Phe Tyr Met Gly Asp Pro Ser Arg Asn Val Tyr Ser Val Asp  
           405                 410                 415  
 Leu Lys Glu Phe Asp Lys Thr Glu Val Asp Tyr Tyr Tyr Asn Asn Val  
           420                 425                 430  
 Arg

<210> 6925  
 <211> 85  
 <212> PRT  
 <213> B.fragilis

<400> 6925  
 His Arg Val Lys Thr Cys Ser Leu Asp Val Asn Lys Lys Phe Phe Lys  
   1              5                 10                 15  
 Cys Lys Arg Leu Val Ile Cys Ala Gln Glu Pro Ala Asn Leu Gln Lys  
   20             25                 30  
 Thr Leu Thr Met Leu Ile Glu Glu Arg Tyr Lys Asp Glu Asp Thr Gly  
   35             40                 45  
 Ser Asp Asp Val Asn Ser Leu Pro Lys Leu Glu Leu Ser Tyr Ser Ala  
   50             55                 60  
 Asp Val Cys Phe Phe Leu Leu Lys Gln Ala Lys Arg Thr Ile Ile Asn  
   65             70                 75                 80  
 Leu Lys Ile Lys Lys  
   85

<210> 6926  
 <211> 77  
 <212> PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6926

His	Phe	Tyr	Asn	Val	Val	Lys	Trp	Val	Tyr	Thr	Lys	Tyr	Val	Leu	Leu
1				5					10					15	
Tyr	Pro	Leu	Lys	Cys	Ser	Lys	Phe	His	Leu	Cys	Ala	Lys	Val	Gln	Ile
				20					25					30	
Leu	Phe	Tyr	Ile	Leu	Leu	Ile	Ser	Ile	Tyr	Arg	Tyr	Leu	Tyr	Gly	Ser
				35					40					45	
Ile	Asp	Asn	Ile	Gln	Leu	Ser	Met	Thr	Val	Ile	Ala	Asp	Trp	Val	Thr
				50					55					60	
Gly	Phe	Phe	Ala	Thr	Phe	Phe	Val	Arg	His	His	Ala	His			
				65					70					75	

&lt;210&gt; 6927

&lt;211&gt; 941

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6927

Ile	Pro	Asp	Lys	Gln	Gly	Tyr	Arg	Pro	Ser	Gly	Arg	Val	Gln	Gly	Ser
1				5					10					15	
Glu	Gly	Ser	Val	Pro	Leu	His	Leu	Leu	Arg	Arg	Ser	Ala	Gly	Ser	Leu
				20					25					30	
Arg	Pro	Val	Arg	His	Pro	Leu	His	Gly	Arg	His	Arg	Pro	Val	Asp	Met
				35					40					45	
Tyr	Arg	Leu	Arg	Arg	Gly	Ile	Val	Phe	Arg	Pro	Arg	Met	Ala	Asp	Leu
				50					55					60	
Arg	Ala	Glu	Arg	Pro	Val	Arg	Arg	Ile	Arg	Ala	Asp	Glu	Ile	Gly	Ser
				65					70					80	
Gly	Lys	Glu	Pro	Ser	Pro	Ile	Pro	Tyr	Gln	Pro	Ala	Ala	Asp	His	Pro
				85					90					95	
Ile	Ile	Gln	Thr	Ala	Thr	Lys	Gly	Arg	Asn	Asp	Met	Arg	Asn	Thr	Ser
				100					105					110	
Lys	Met	Thr	Thr	Leu	Glu	Asn	Lys	Phe	Pro	Leu	Leu	Ala	Val	Glu	His
				115					120					125	
Gly	Cys	Ile	Ile	Ser	Lys	Asp	Ala	Asp	Ile	Thr	Val	Ala	Phe	Glu	Val
				130					135					140	
Glu	Leu	Pro	Glu	Leu	Tyr	Thr	Val	Thr	Asp	Ala	Glu	Tyr	Glu	Ala	Ile
				145					150					160	
His	Gly	Cys	Trp	Cys	Lys	Ala	Ile	Lys	Val	Leu	Pro	Asp	Phe	Cys	Val
				165					170					175	
Val	His	Lys	Gln	Asp	Trp	Phe	Ile	Lys	Glu	Lys	Tyr	Lys	Pro	Glu	Leu
				180					185					190	
Gln	Lys	Asp	Asp	Met	Ser	Phe	Leu	Ser	Arg	Ser	Phe	Glu	Arg	His	Phe
				195					200					205	
Asn	Glu	Arg	Pro	Tyr	Leu	Lys	His	Thr	Cys	Tyr	Leu	Tyr	Leu	Thr	Lys
				210					215					220	
Thr	Thr	Lys	Glu	Arg	Asn	Arg	Met	Gln	Ser	Asn	Phe	Ser	Thr	Leu	Cys
				225					230					240	
Arg	Gly	His	Ile	Ile	Pro	Lys	Glu	Leu	Asp	Lys	Glu	Thr	Ala	Gly	Lys
				245					250					255	
Phe	Met	Glu	Ala	Ala	Glu	Gln	Phe	Glu	Arg	Ile	Met	Asn	Asp	Ser	Gly
				260					265					270	
Phe	Val	Arg	Leu	Arg	Arg	Leu	Ser	Thr	Asp	Glu	Ile	Val	Gly	Thr	Glu
				275					280					285	
Lys	Ser	Thr	Gly	Leu	Ile	Glu	Arg	Tyr	Phe	Ser	Leu	Met	Pro	Glu	Gly
				290					295					300	
Asp	Thr	Thr	Leu	Gln	Asp	Ile	Asp	Leu	Ser	Ala	Lys	Glu	Met	Arg	Ile

305	310	315	320
Gly Asp Asn Arg Leu Cys	Leu His Thr Leu Ser Asp Ala Glu Asp Met		
325	330	335	
Pro Gly Lys Val Ala Thr Asp Ile Arg Tyr Glu Lys Leu Ser Thr Asp			
340	345	350	
Arg Ser Asp Cys Arg Leu Ser Phe Ala Ser Pro Val Gly Leu Leu			
355	360	365	
Ser Cys Asn His Ile Tyr Asn Gln Tyr Val Ile Ile Asp Asn Ser Glu			
370	375	380	
Glu Asn Leu Gln Lys Phe Glu Lys Ser Ala Arg Asn Met Gln Ser Leu			
385	390	395	400
Ser Arg Tyr Ser Arg Ser Asn Ser Ile Asn Arg Glu Trp Ile Asp Gln			
405	410	415	
Tyr Leu Asn Glu Ala His Ser Tyr Gly Leu Thr Ser Val Arg Ala His			
420	425	430	
Phe Asn Val Met Ala Trp Ser Asp Asp Ala Glu Glu Leu Lys His Ile			
435	440	445	
Lys Asn Asp Val Gly Ser Gln Leu Ala Ser Met Glu Cys Val Pro Arg			
450	455	460	
His Asn Thr Ile Asp Cys Pro Thr Leu Tyr Trp Ala Ala Met Pro Gly			
465	470	475	480
Asn Ala Ala Asp Phe Pro Ala Glu Glu Ser Phe His Thr Phe Ile Glu			
485	490	495	
Gln Ala Val Cys Leu Phe Thr Glu Glu Thr Asn Tyr Arg Ser Ser Leu			
500	505	510	
Ser Pro Phe Gly Ile Lys Met Val Asp Arg Leu Thr Gly Lys Pro Leu			
515	520	525	
His Leu Asp Ile Ser Asp Leu Pro Met Lys Arg Gly Ile Thr Thr Asn			
530	535	540	
Arg Asn Lys Phe Val Leu Gly Pro Ser Gly Ser Gly Lys Ser Phe Phe			
545	550	555	560
Met Asn His Leu Val Arg Gln Tyr Tyr Glu Gln Gly Thr His Val Val			
565	570	575	
Leu Val Asp Thr Gly Asn Ser Tyr Gln Gly Leu Cys Glu Met Ile Arg			
580	585	590	
Arg Lys Thr Asn Gly Ala Asp Gly Val Tyr Phe Thr Tyr Thr Glu Glu			
595	600	605	
Lys Pro Ile Ser Phe Asn Pro Phe Tyr Thr Asp Asp Tyr Val Phe Asp			
610	615	620	
Val Glu Lys Lys Asp Ser Ile Lys Thr Leu Leu Leu Thr Leu Trp Lys			
625	630	635	640
Ser Glu Asp Asp Lys Val Thr Lys Thr Glu Ser Gly Glu Leu Gly Ser			
645	650	655	
Ala Val Asn Ala Tyr Ile Glu Arg Ile Arg Ala Asp Arg Ser Ile Val			
660	665	670	
Pro Ser Phe Asn Thr Phe Tyr Glu Tyr Met Arg Asp Asp Tyr Arg Cys			
675	680	685	
Glu Leu Ala Glu Arg Glu Ile Lys Val Glu Lys Ser Asp Phe Asn Ile			
690	695	700	
Asp Asn Met Leu Thr Thr Met Arg Gln Tyr Tyr Arg Gly Gly Arg Tyr			
705	710	715	720
Asp Phe Leu Leu Asn Ser Thr Glu Asn Ile Asp Leu Leu Gly Lys Arg			
725	730	735	
Phe Ile Val Phe Glu Ile Asp Ser Ile Lys Glu Asn Arg Glu Leu Phe			
740	745	750	
Pro Val Val Thr Ile Ile Ile Met Glu Ala Phe Ile Asn Lys Met Arg			
755	760	765	
Arg Leu Lys Gly Val Arg Lys Gln Leu Ile Val Glu Glu Ala Trp Lys			
770	775	780	

Ala Leu Ser Ser Ala Asn Met Ala Glu Tyr Leu Arg Tyr Met Tyr Lys  
 785 790 795 800  
 Thr Val Arg Lys Tyr Tyr Gly Glu Ala Ile Val Val Thr Gln Glu Val  
 805 810 815  
 Asp Asp Ile Ile Ser Ser Pro Val Val Lys Glu Ser Ile Ile Asn Asn  
 820 825 830  
 Ser Asp Cys Lys Ile Leu Leu Asp Gln Arg Lys Tyr Met Asn Lys Phe  
 835 840 845  
 Asp Ala Ile Gln Ser Leu Leu Gly Leu Thr Glu Lys Glu Lys Ser Gln  
 850 855 860  
 Ile Leu Ser Ile Asn Met Ala Asn Asn Pro Ser Arg Leu Tyr Lys Glu  
 865 870 875 880  
 Val Trp Ile Gly Leu Gly Thr Gln Ser Ala Val Tyr Ala Thr Glu  
 885 890 895  
 Val Ser Ala Glu Glu Tyr Leu Ala Tyr Thr Glu Glu Thr Glu Lys  
 900 905 910  
 Val Glu Val Tyr Arg Leu Ala Glu Gln Leu Gly Gly Asp Ile Glu Ala  
 915 920 925  
 Ala Ile Arg Gln Leu Ala Glu Arg Arg Arg Lys Lys Glu  
 930 935 940

&lt;210&gt; 6928

&lt;211&gt; 146

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6928

Ile Gln Ser Asn Met Ser Glu Lys Arg Arg Asn Lys Gly Gly Arg Asn  
 1 5 10 15  
 Pro Lys Leu Asp Pro Ala Val Phe Arg Tyr Thr Val Arg Phe Ser Glu  
 20 25 30  
 Glu Glu His Asn Arg Phe Leu Ser Met Phe Glu Lys Ser Gly Val Tyr  
 35 40 45  
 Ala Lys Ser Val Phe Leu Lys Ala His Phe Phe Gly Gln Pro Phe Lys  
 50 55 60  
 Val Leu Lys Val Asp Lys Thr Leu Val Asp Tyr Tyr Thr Lys Leu Ser  
 65 70 75 80  
 Asp Phe His Ala Gln Phe Arg Ala Ile Gly Thr Asn Tyr Asn Gln Val  
 85 90 95  
 Val Lys Glu Leu Arg Leu His Phe Ser Glu Lys Lys Ala Met Ala Leu  
 100 105 110  
 Leu Tyr Lys Leu Glu Gln Gln Thr Val Glu Leu Val Lys Leu Ser Arg  
 115 120 125  
 Lys Ile Val Glu Leu Ser Arg Glu Met Gln Glu Lys Trp Ser Gln Lys  
 130 135 140  
 Ser Val  
 145

&lt;210&gt; 6929

&lt;211&gt; 94

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6929

Lys Cys Ile Lys Ile Met Gly Lys Lys Ile Phe Ala Thr Leu Ile Val  
 1 5 10 15  
 Ala Val Val Ala Thr Phe Ala Gly Tyr Asn Ile Tyr Gln Ser Gln Arg  
 20 25 30  
 Ala Lys Asn Thr Met Ser Glu Leu Ala Met Ala Asn Val Glu Ala Leu

35	40	45
Ala Asp Ile Asn Glu Thr Asp Ser Ser Gly Gln Thr Leu Tyr Cys Cys		
50	55	60
Gly Asn Glu Asp Thr Cys Ala Lys Gly Glu Asp Glu Asp Thr Gly Glu		
65	70	75
Glu Phe Ile Ile His Gly Val Leu Ser Ser Lys Lys Cys Lys		
85	90	

&lt;210&gt; 6930

&lt;211&gt; 313

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6930

Arg Leu Ile Lys Leu Tyr Ser Pro Met Ile His Ile Ala Cys Asn Ile			
1	5	10	15
Asp Ser Asn Phe Thr Val His Cys Ala Val Thr Leu Val Ser Leu Phe			
20	25	30	
Glu Asn Asn Arg Glu Ser Glu Phe Cys Ile His Ile Val Ala Ser Thr			
35	40	45	
Leu Pro Ser Glu Asp Lys Glu Val Leu Lys Thr Ile Ala Gly Arg Tyr			
50	55	60	
Gly Asn Glu Val Arg Phe Tyr Phe Pro Pro Glu Asp Leu Leu His Asn			
65	70	75	80
Phe Ser Ile Lys Lys Phe Gly Lys Arg Ile Ser Met Ala Thr Tyr Tyr			
85	90	95	
Arg Cys Met Phe Ser Ala Ile Leu Pro Glu Glu Val Asp Lys Val Leu			
100	105	110	
Tyr Leu Asp Cys Asp Ile Val Ile Leu Gly Asp Ile Ser Glu Tyr Trp			
115	120	125	
Asn Thr Asp Met Ser Asn Tyr Ser Val Ala Cys Val Glu Asp Ile Gly			
130	135	140	
Ser Asn Glu Asp Glu Arg Tyr Asp Ile Leu Lys Tyr Asp Lys Ser Phe			
145	150	155	160
Ser Tyr Phe Asn Ala Gly Val Leu Leu Ile Asn Leu Arg Tyr Trp Arg			
165	170	175	
Glu His Lys Ile Asp Glu Gln Cys Glu Gln Tyr Phe Leu Arg Tyr Pro			
180	185	190	
Glu Arg Ile Arg Phe Asn Asp Gln Asp Leu Leu Asn Ala Val Leu His			
195	200	205	
Glu Ser Lys Leu Phe Val Pro Leu Lys Trp Asn Met Gln Asp Gly Phe			
210	215	220	
Tyr Arg Tyr Gly Ala Asp Lys Gly Val Lys Asp Lys Gln Leu His			
225	230	235	240
Gln Gln Leu Leu His Pro Val Ile Leu His Tyr Thr Asn Lys Lys Pro			
245	250	255	
Trp Asn Tyr Asp Ser Met His Pro Leu Lys Gly Glu Tyr Phe Lys Tyr			
260	265	270	
Leu Asp Met Thr Pro Trp Lys Gly Lys Arg Pro Leu Ser Thr Phe Lys			
275	280	285	
Ala Arg Leu Ser Trp Trp Leu Lys Ser Leu Pro Tyr Ala Leu Arg Leu			
290	295	300	
Arg Lys Pro Lys Tyr Val Asn Leu Ile			
305	310		

&lt;210&gt; 6931

&lt;211&gt; 198

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6931

Trp	Leu	Ala	Asn	Glu	Arg	Leu	Leu	Pro	Tyr	Val	Val	Ser	Val	Thr	Lys
1				5						10					15
Asn	Ser	Val	Thr	Met	Asn	Arg	Leu	Ile	Leu	Leu	Val	Glu	Ser	Arg	Ile
				20					25					30	
Arg	Gly	Asp	Val	Tyr	Val	Arg	Phe	Gly	Gly	Glu	Leu	Pro	Lys	Thr	His
				35				40					45		
Arg	Ser	Asn	Thr	Ala	Gly	Arg	Trp	Met	Leu	Ser	Leu	Pro	Leu	Lys	Ser
				50				55				60			
Val	Asn	Asn	Leu	Val	Lys	Asp	Ala	Arg	Lys	Val	Gln	Gln	Thr	Ile	Leu
				65				70		75			80		
Met	Val	Gly	Asp	Ile	Thr	Asp	Thr	Tyr	Val	Thr	Ser	Phe	Gln	Arg	Met
				85				90				95			
Met	Arg	Asp	Asp	Asn	Phe	Thr	Val	Glu	Glu	Leu	Gly	Ala	Ile	Ala	Phe
				100				105				110			
Gly	Tyr	Thr	Lys	Leu	Leu	Glu	Glu	Ser	Asn	Asp	Val	Leu	Thr	Glu	Leu
				115				120				125			
Lys	Asn	Val	Val	Asn	Ile	Thr	Thr	Leu	Ser	Met	Thr	Asp	Lys	Glu	Arg
				130				135			140				
Met	Asp	Val	Val	Glu	Arg	Cys	Tyr	Ser	Lys	Met	Lys	Arg	Tyr	Arg	Asn
				145				150		155			160		
Leu	Val	Ser	Tyr	Tyr	Thr	Asn	Lys	Asn	Ile	Ser	Val	Ser	Tyr	Leu	Arg
				165				170				175			
Ala	Lys	Lys	Lys	Asn	Asp	Leu	Asp	Arg	Ile	Met	Gly	Leu	Tyr	Gly	Asn
				180				185				190			
Met	Asn	Glu	Arg	Tyr	Trp										
				195											

&lt;210&gt; 6932

<211> 269  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6932

Lys	His	Lys	Asn	Met	Lys	Thr	Arg	Ala	Leu	Arg	Ser	Tyr	Leu	Cys	Phe
1					5				10					15	
Thr	Leu	Leu	Ala	Thr	Ala	Phe	Leu	Leu	Gly	Leu	Ala	Gly	Cys	Asp	Lys
					20				25				30		
Glu	Glu	Ser	Glu	Pro	Leu	Arg	Ile	Gly	Asp	Asp	Ser	Phe	Asn	Asn	Ile
					35			40			45				
Glu	Asn	Gly	Val	Trp	Thr	Ala	Tyr	Tyr	Pro	Asn	Thr	Asn	Gln	Thr	Ser
					50			55			60				
Ile	Thr	Ile	Tyr	Gly	Gly	Val	Lys	Pro	Tyr	Thr	Val	Ser	Ser	Asn	Ser
					65			70		75			80		
Asp	Ile	Leu	Lys	Val	Asn	Met	Asp	Lys	Leu	Ser	Asp	Ala	Phe	Asn	Tyr
					85			90			95				
Glu	Thr	Leu	Gly	Val	Gly	Asp	Ala	Glu	Val	Thr	Ile	Thr	Asp	Ala	Lys
					100			105			110				
Gly	Glu	Ser	Val	Gly	Leu	Lys	Val	Lys	Ile	Asp	Tyr	Arg	Ser	Asp	Lys
					115			120			125				
Met	Lys	Ile	Val	Lys	Leu	Asp	Ala	Tyr	Val	Lys	Gly	Asp	Lys	Met	Thr
					130			135			140				
Val	Ala	Ala	Gln	Lys	Glu	Leu	Lys	Glu	Lys	Ala	Leu	Ala	Ser	Ile	Pro
					145			150			155			160	
Val	Lys	Ala	Gly	Gly	Gly	Tyr	Gln	Phe	Ile	Tyr	Thr	Lys	Asp	Gln	Gly
					165			170			175				
Gly	Ile	Val	Tyr	Val	Tyr	Pro	Asp	Lys	Tyr	Gly	Glu	Lys	Tyr	Lys	Glu
					180			185			190				

Gly Thr Phe Thr Arg Ser Ser Leu Ala Val Gly Asn Ser Ser Tyr Arg  
     195               200               205  
 Lys Tyr Glu Ile Lys Leu Asp Gly Met Glu Arg Thr Tyr Ile Val Gln  
     210               215               220  
 Arg Tyr Tyr Pro Ser Lys Thr Arg Ser Val Ala Met Val Pro Tyr Gly  
     225               230               235               240  
 Phe Tyr Glu Asp Leu Leu Asp Gln Phe Thr Asp Asp Tyr Pro Glu Val  
     245               250               255  
 Glu Ser Val Tyr Thr Met Gln Val Val Ser Ala Val Phe  
     260               265

&lt;210&gt; 6933

&lt;211&gt; 80

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6933

Tyr Met Lys Lys Tyr Ile Tyr Ala Phe Phe Ala Ser Leu Ile Ile  
     1               5               10               15  
 Val Ala Leu Gly Leu Lys Ala Lys Ile Lys Ser Asp Thr Glu Phe Ser  
     20               25               30  
 Glu Leu Thr Leu Ser Asn Ile Glu Ala Leu Gly Met Glu Glu Thr Asp  
     35               40               45  
 Gly Ala Lys Asp Tyr Trp Cys Cys Gly Asn Glu Asp Val Cys Ala Glu  
     50               55               60  
 Gly Pro His Tyr Lys Ile Lys Gly Lys Leu Lys Glu Asn Pro Cys Lys  
     65               70               75               80

&lt;210&gt; 6934

&lt;211&gt; 299

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6934

Ser Ser Arg Asn Thr Leu Asn Lys Val Val Leu Arg Asn Lys Ile Asp  
     1               5               10               15  
 Lys Ile Arg Leu Leu Phe Cys Lys Asp Arg Glu Ser Tyr Ser Cys Phe  
     20               25               30  
 Tyr Arg Ile Leu Gly Phe Tyr Pro Arg Asn Ile Arg Leu Tyr Glu Gln  
     35               40               45  
 Ala Leu Leu His Lys Ser Thr Ala Val Arg Ser Glu Lys Gly Arg Pro  
     50               55               60  
 Leu Asn Asn Glu Arg Leu Glu Phe Leu Gly Asp Ala Ile Leu Asp Ala  
     65               70               75               80  
 Ile Val Gly Asp Ile Val Tyr Gln His Phe Glu Gly Lys Arg Glu Gly  
     85               90               95  
 Phe Leu Thr Asn Thr Arg Ser Lys Ile Val Gln Arg Glu Thr Leu Asn  
     100              105              110  
 Lys Leu Ala Val Glu Ile Gly Leu Asp Lys Leu Ile Lys Tyr Ser Thr  
     115              120              125  
 Arg Ser Ser Ser His Asn Ser Tyr Met Tyr Gly Asn Ala Phe Glu Ala  
     130              135              140  
 Phe Ile Gly Ala Ile Tyr Leu Asp Arg Gly Tyr Glu Cys Cys Lys Gln  
     145              150              155              160  
 Phe Met Glu Arg Arg Ile Ile Glu Pro Tyr Ile Asp Leu Asp Lys Leu  
     165              170              175  
 Ser Arg Lys Glu Val Asn Phe Lys Ser Lys Leu Ile Glu Trp Ser Gln  
     180              185              190  
 Lys Asn Lys Met Glu Val Ser Phe Glu Leu Ile Glu Gln Ser Leu Asp

195	200	205
Lys Glu Asn Asn Pro Val Phe Gln Thr Glu Val Arg Ile Glu Gly Ile		
210	215	220
Leu Gly Gly Ser Gly Thr Gly Tyr Ser Lys Lys Glu Ser Gln Gln Asn		
225	230	235
Ala Ala Gln Met Thr Leu Lys Lys Ile Lys Gly Asp Pro Glu Phe Met		
245	250	255
Ala Ser Val Gln Glu Ala Lys Thr Gln Asn Asn Val Pro Ala Glu Asp		
260	265	270
Thr Thr Pro Glu Ser Glu Met Ser Leu Thr Ala Glu Asn Gln Gln Ile		
275	280	285
Asp Glu Ile Ile Ser Thr Glu Glu Ile Ser Val		
290	295	

&lt;210&gt; 6935

&lt;211&gt; 101

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6935

Asn Val Leu Asn Met Glu Ile Val Ser Ile Glu Lys Lys Thr Phe Glu		
1	5	10
Met Met Val Ala Ser Phe Asn Ala Leu Ser Glu Lys Val Ala Ala Leu		
20	25	30
Arg Arg Lys Ser Asp Gly Gly Arg Leu Glu Arg Trp Leu Thr Gly Glu		
35	40	45
Glu Val Cys Gly Gln Leu Arg Ile Ser Pro Arg Thr Leu Gln Thr Leu		
50	55	60
Arg Asp Lys Arg Leu Ile Gly Tyr Ser Gln Ile Asn Arg Arg Phe Tyr		
65	70	75
Tyr Lys Pro Glu Glu Val Arg Arg Leu Ile Pro Leu Ile Gly Thr Leu		
85	90	95
Tyr Pro Gly Gly Arg		
100		

&lt;210&gt; 6936

&lt;211&gt; 637

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6936

Lys Gln Leu Asn Asn Arg Lys Met Arg Lys Trp Arg Ile Glu Asp Ser		
1	5	10
Glu Glu Leu Tyr Asn Ile Thr Gly Trp Gly Thr Ser Tyr Phe Gly Ile		
20	25	30
Asn Asp Lys Gly His Val Val Val Thr Pro Arg Lys Asp Gly Val Ala		
35	40	45
Val Asp Leu Lys Glu Leu Val Asp Glu Leu Gln Leu Arg Asp Val Ala		
50	55	60
Ala Pro Met Leu Val Arg Phe Pro Asp Ile Leu Asp Asn Arg Ile Glu		
65	70	75
Lys Thr Ala Tyr Cys Phe Lys Gln Ala Ser Glu Glu Tyr Gly Tyr Lys		
85	90	95
Ala Gln Asn Phe Ile Ile Tyr Pro Ile Lys Val Asn Gln Met Arg Pro		
100	105	110
Val Val Glu Glu Ile Ile Ser His Gly Lys Lys Phe Asn Leu Gly Leu		
115	120	125
Glu Ala Gly Ser Lys Pro Glu Leu His Ala Val Ile Ala Val Asn Thr		
130	135	140

Asp Ser Asp Ser Leu Ile Ile Cys Asn Gly Tyr Lys Asp Glu Ser Tyr  
 145 150 155 160  
 Ile Glu Leu Ala Leu Leu Ala Gln Lys Met Gly Lys Arg Ile Phe Leu  
 165 170 175  
 Val Val Glu Lys Met Asn Glu Leu Lys Leu Ile Ala Arg Met Ala Lys  
 180 185 190  
 Gln Leu Asn Val Gln Pro Asn Ile Gly Ile Arg Ile Lys Leu Ala Ser  
 195 200 205  
 Ser Gly Ser Gly Lys Trp Glu Glu Ser Gly Gly Asp Ala Ser Lys Phe  
 210 215 220  
 Gly Leu Thr Ser Ser Glu Leu Leu Glu Ala Leu Asp Phe Leu Glu Ser  
 225 230 235 240  
 Lys Gly Met Lys Asp Cys Leu Lys Leu Ile His Phe His Ile Gly Ser  
 245 250 255  
 Gln Val Thr Lys Ile Arg Arg Ile Lys Thr Ala Leu Arg Glu Ala Ser  
 260 265 270  
 Gln Phe Tyr Val Gln Leu His Ala Met Gly Phe Asn Val Glu Phe Val  
 275 280 285  
 Asp Ile Gly Gly Leu Gly Val Asp Tyr Asp Gly Thr Arg Ser Ser  
 290 295 300  
 Ser Ser Glu Ser Ser Val Asn Tyr Ser Ile Gln Glu Tyr Val Asn Asp  
 305 310 315 320  
 Ser Ile Ser Thr Leu Val Asp Ala Ser Asp Lys Asn Gly Ile Pro His  
 325 330 335  
 Pro Asn Ile Ile Thr Glu Ser Gly Arg Ala Leu Thr Ala His His Ser  
 340 345 350  
 Val Leu Ile Phe Glu Val Leu Glu Thr Ala Thr Leu Pro Gln Trp Asp  
 355 360 365  
 Asp Glu Glu Glu Ile Ala Pro Asp Ala His Glu Leu Val Gln Glu Leu  
 370 375 380  
 Tyr Gly Ile Trp Asp Thr Leu Asn Gln Asn Lys Met Leu Glu Ala Trp  
 385 390 395 400  
 His Asp Ala Gln Gln Ile Arg Glu Glu Ala Leu Asp Leu Phe Ser His  
 405 410 415  
 Gly Ile Val Asp Leu Lys Thr Arg Ala Gln Ile Glu Arg Leu Tyr Trp  
 420 425 430  
 Ser Ile Thr Arg Glu Ile Asn Gln Ile Ala Gly Gly Leu Lys His Ala  
 435 440 445  
 Pro Asp Glu Phe Arg Gly Leu Ser Lys Leu Leu Ala Asp Lys Tyr Phe  
 450 455 460  
 Cys Asn Phe Ser Leu Phe Gln Ser Leu Pro Asp Ser Trp Ala Ile Asp  
 465 470 475 480  
 Gln Ile Phe Pro Ile Met Pro Ile Gln Arg Leu Asp Glu Lys Pro Asp  
 485 490 495  
 Arg Ser Ala Thr Leu Gln Asp Ile Thr Cys Asp Ser Asp Gly Lys Ile  
 500 505 510  
 Ala Asn Phe Ile Ser Thr Arg Asn Val Ala His Tyr Met Pro Val His  
 515 520 525  
 Ser Leu Lys Gln Lys Glu Pro Tyr Tyr Val Ala Val Phe Leu Val Gly  
 530 535 540  
 Ala Tyr Gln Glu Ile Leu Gly Asp Met His Asn Leu Phe Gly Asp Thr  
 545 550 555 560  
 Asn Ala Val His Val Ser Val Asn Glu Lys Gly Tyr Asn Ile Glu Gln  
 565 570 575  
 Ile Ile Asp Gly Glu Thr Val Ala Glu Val Leu Asp Tyr Val Gln Tyr  
 580 585 590  
 Ser Pro Lys Lys Leu Val Arg Thr Leu Glu Thr Trp Val Thr Lys Ser  
 595 600 605  
 Val Lys Glu Gly Lys Ile Ser Val Glu Glu Gly Lys Glu Phe Leu Ser

610	615	620
Asn Tyr Arg Ser Gly Leu	Tyr Gly Tyr Thr Tyr	Leu Glu
625	630	635

&lt;210&gt; 6937

&lt;211&gt; 488

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6937

Leu Ile Met Lys Lys Leu Phe Tyr Trp Ile Leu Ser Ser Ile Val Leu			
1	5	10	15
Phe Ser Cys Ser Glu Thr Glu Leu Leu Asp Asn Ser Ile Asp Asp Gln			
20	25	30	
Leu Ile Thr Thr Arg Ala Ser Gly Asp Gly Leu Tyr Asp Val Leu Gly			
35	40	45	
Tyr Gly Tyr Asp Ile Thr Lys Glu Tyr Leu His Pro Met Ser Val Cys			
50	55	60	
Asn Pro Val Leu Asp Ile Glu Lys Tyr Lys Gln Asp Tyr Gly Glu Arg			
65	70	75	80
Leu Val Thr Gly Thr Pro Ser Phe Gly Gly Asp Gln Met Tyr Tyr Gly			
85	90	95	
Tyr Ser Ala Phe Asp Tyr Leu Lys Asp Met Thr Lys Glu Thr Lys Ala			
100	105	110	
Ser Leu Gln Val Ser Asp Thr Ala Lys Gln Ala Ala Tyr Ser Gly Ser			
115	120	125	
Ile Ala Gly Gly Thr Tyr Phe Lys Ser Ala Tyr Ser Tyr Ser Ser Lys			
130	135	140	
Tyr Ser Phe Ala Ser Ile Asp Ala Val Arg Lys Leu Lys Tyr Ile Arg			
145	150	155	160
Ile Asn Asp Glu Lys Ser Arg Leu Met Asn Tyr Leu Ser Ser Ser Phe			
165	170	175	
Lys Glu Asp Leu Asn Arg Leu Pro Ala Glu Lys Leu Val Lys Arg Tyr			
180	185	190	
Gly Thr His Val Leu Thr Asn Phe Thr Ile Gly Gly Arg Tyr Lys Leu			
195	200	205	
Leu Phe Arg Ser Val Ile Thr Asn Thr Thr Glu Asn Ser Val Lys Arg			
210	215	220	
Lys Thr Ile Ala Ser Gly Leu Lys Ala Leu Val Gly Asp Ile Gly Ile			
225	230	235	240
Gly Val Asn Phe Asp Arg Asn Val Glu Thr Ser Glu Thr Leu Thr Arg			
245	250	255	
Glu Asn Lys His Arg Met Leu Tyr Val Leu Phe Tyr Gly Gly Thr Gly			
260	265	270	
Thr Ser Leu Val Tyr Asp Leu Glu Lys Gly Leu Pro Thr Arg Ile Asp			
275	280	285	
Ile Gln His Trp Glu Ser Thr Val Asn Leu Thr Asn Ala Asn Leu Thr			
290	295	300	
Asp Ile Asn Trp Glu Glu Thr Tyr Pro Ile Tyr Glu Phe Ile Gln Asp			
305	310	315	320
Pro Gln Lys Arg Ala Glu Val Lys Asn Ala Val Asp Gln Tyr Ile Ala			
325	330	335	
Gly Gln Gln Ile Lys Val Leu Glu Leu Arg Pro Met Tyr Arg Met His			
340	345	350	
Ser Lys Arg Gln Lys Asn Thr Phe Tyr Val Phe Thr Lys Ser Asp Ala			
355	360	365	
Asp Tyr Ile Ser Lys Lys Trp Gly Asp Glu Ser Asn Gly Ile Asp Gly			
370	375	380	
Tyr Ile Cys Val Asn Pro Glu Pro Asn Thr Lys Pro Met Tyr Ser Leu			

385	390	395	400
Phe Ser Lys Arg Ser Glu Asn Thr Phe Tyr Val	Tyr Asp Lys Ala Glu		
405	410	415	
Val Asp Tyr Ile Val His Lys Trp Gly Asp Thr Phe	Tyr Gly Leu Asp		
420	425	430	
Gly Tyr Met Leu Thr Lys Pro Glu Asp Asn Thr Lys	Pro Val Tyr Cys		
435	440	445	
Leu His Ser Asn Arg Ala Lys Asn Thr Phe Phe	Val Phe Asp Lys Gly		
450	455	460	
Glu Ala Asp Arg Ile Val Arg Glu Phe Gly Asp	Thr Tyr Lys Gly Leu		
465	470	475	480
Val Gly Tyr Phe Tyr Asp Ala Asp			
485			

&lt;210&gt; 6938

&lt;211&gt; 350

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6938

Pro Ile Met Lys Val Ile Val Asp Asn Lys Ile Pro	Tyr Ile Arg Glu		
1	5	10	15
Ala Ile Glu Gln Ile Ala Asp Glu Val Ile	Tyr Ala Pro Gly Lys Asp		
20	25	30	
Phe Thr Pro Glu Leu Val Gln Asp Ala Asp Ala	Leu Ile Ile Arg Thr		
35	40	45	
Arg Thr Arg Cys Asp Arg Ser Leu Leu Ala Gly	Ser Lys Val Lys Phe		
50	55	60	
Ile Ala Thr Ala Thr Ile Gly Phe Asp His Ile	Asp Thr Ala Tyr Cys		
65	70	75	80
Arg Glu Ala Gly Ile Thr Trp Thr Asn Ala Pro	Gly Cys Asn Ser Ala		
85	90	95	
Ser Val Ala Gln Tyr Ile Gln Ser Ala Leu Phe	Ile Leu Gln Gln Thr		
100	105	110	
Arg Gly Met Lys Leu Asn Gln Met Thr Ile Gly	Ile Val Gly Val Gly		
115	120	125	
Asn Val Gly Ser Lys Val Ala Asp Val Ala Arg	Lys Leu Gly Ile Gln		
130	135	140	
Val Met Leu Asn Asp Leu Pro Arg Glu Glu Arg	Glu Ser Thr Met		
145	150	155	160
Phe Ala Ser Leu Lys Ser Ile Ala Glu Lys Cys	Asp Ile Ile Thr Phe		
165	170	175	
His Val Pro Leu Tyr Lys Glu Gly Lys Tyr	Lys Thr Tyr His Leu Ala		
180	185	190	
Asp Lys His Phe Phe His Ser Leu Lys Lys Gly	Ala Val Ile Met Asn		
195	200	205	
Thr Ser Arg Gly Glu Val Ile Glu Thr Glu Ala	Leu Leu Glu Ala Leu		
210	215	220	
Arg Ser Gly Ile Leu Ser Asp Ala Val Ile Asp	Val Trp Glu His Glu		
225	230	235	240
Pro Asp Ile Asp Leu Glu Leu Leu Glu Lys	Val Ile Ile Gly Thr Pro		
245	250	255	
His Ile Ala Gly Tyr Ser Ala Asp Gly Lys Ala	Asn Ala Thr Arg Met		
260	265	270	
Ser Leu Glu Ala Leu Cys Arg Phe Phe Leu Ile	Glu Thr Asp Tyr Arg		
275	280	285	
Ile Thr Pro Pro Glu Pro Lys Asn Lys Leu Ile	Ser Thr Ala Thr Tyr		
290	295	300	
Glu Glu Ala Ser Leu Met Ile Tyr Asp Pro Arg	Arg Asp Ser Asp Ala		

305	310	315	320
Leu Lys Ser His Pro	Gly Leu Phe Glu Gln	Leu Arg Gly Asp Tyr	Pro
	325	330	335
Leu Arg Arg Glu Glu Gly Ala Tyr Arg Ile Val Ile Thr Lys			
	340	345	350

&lt;210&gt; 6939

&lt;211&gt; 207

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6939

Gln Asp Met Asn Tyr Phe Leu Leu Ala Glu Thr Asp Phe Phe Arg Arg			
1	5	10	15
Ile Asn Glu Ala Gly Asp Cys Asn Met Glu Lys Ala Tyr Thr Val Phe			
20	25	30	
Ala Thr Gln Val Ile Glu Leu Cys Ile Gly Ser Pro Asp Thr Asn Arg			
35	40	45	
Thr Ile Ile Ala Leu Ala Tyr Ile Glu Ile Glu Leu Gln His His Pro			
50	55	60	
Val His Asn Leu Pro Glu Glu Lys Glu Ile Ala Asn Tyr Val Ser			
65	70	75	80
Lys Ala Leu Ser Phe Val Arg Lys Met Gln Lys Phe Leu Ala Ala Pro			
85	90	95	
Gln Val Pro Pro Leu Ile Pro Ile Gln Thr Ser Thr Asp Asn Thr Asn			
100	105	110	
Asp Asn Thr Ala Ser Pro Leu Gln Trp Thr Gly Asn Ala Ile Asp Leu			
115	120	125	
Val Glu Leu Ile Tyr Gly Ile Asn Glu Met Gly Cys Ile Asn Asn Gly			
130	135	140	
Asn Met Pro Leu Lys Gln Leu Ala Pro Leu Leu Tyr Lys Ile Phe Gly			
145	150	155	160
Val Glu Ser Lys Asp Cys Tyr Arg Phe Tyr Ile Asp Ile Lys Arg Arg			
165	170	175	
Lys Asn Glu Ser Arg Thr Tyr Phe Leu Asp Lys Met Gln Glu Lys Leu			
180	185	190	
Asn Glu Lys Met Leu Arg Asp Glu Glu Met Glu Arg Met Arg Arg			
195	200	205	

&lt;210&gt; 6940

&lt;211&gt; 263

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6940

Phe Val Met Lys Glu Lys Met Lys Glu Lys Leu Thr Val Ile Lys Val			
1	5	10	15
Gly Gly Lys Ile Val Glu Glu Ala Thr Leu Asn Gln Leu Leu Asn			
20	25	30	
Asp Phe Ala Ala Ile Glu Gly His Lys Val Leu Val His Gly Gly Gly			
35	40	45	
Arg Ser Ala Thr Lys Ile Ala Ala Gln Leu Gly Ile Asp Ser Lys Met			
50	55	60	
Val Asn Gly Arg Arg Ile Thr Asp Ala Glu Thr Leu Lys Val Val Thr			
65	70	75	80
Met Val Tyr Gly Gly Leu Val Asn Lys Asn Ile Val Ala Gly Leu Gln			
85	90	95	
Ala Arg Gly Val Asn Ala Leu Gly Leu Thr Gly Ala Asp Met Asn Val			
100	105	110	

Ile Arg Ser Met Lys Arg Pro Val Lys Glu Val Asp Tyr Gly Phe Val  
 115 120 125  
 Gly Asp Val Glu Arg Val Asp Ser Thr Leu Leu Ser Asp Leu Ile His  
 130 135 140  
 Lys Gly Val Val Pro Val Met Ala Pro Leu Thr His Asp Gly Gln Gly  
 145 150 155 160  
 Asn Met Leu Asn Thr Asn Ala Asp Thr Ile Ala Gly Glu Thr Ala Lys  
 165 170 175  
 Ala Leu Ser Ala Ile Phe Asp Val Thr Leu Val Tyr Cys Phe Glu Lys  
 180 185 190  
 Lys Gly Val Leu Arg Asp Glu Asn Asp Asp Glu Ser Val Ile Pro Gln  
 195 200 205  
 Ile Asn His Ala Glu Phe Gln Arg Tyr Ile Ala Glu Gly Val Ile Gln  
 210 215 220  
 Gly Gly Met Ile Pro Lys Leu Glu Asn Ser Phe Glu Ala Ile Asn Ala  
 225 230 235 240  
 Gly Val Ser Glu Val Val Ile Thr Leu Ala Ser Ala Ile His Thr Asp  
 245 250 255  
 Gly Gly Thr Arg Ile Lys Lys  
 260

&lt;210&gt; 6941

&lt;211&gt; 505

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6941

Arg Ala Met Asn Ile Thr Lys Ile Ile Ser Lys Val Phe Asp Ser Arg  
 1 5 10 15  
 Leu Lys Ala Ile Asp Leu Tyr Asp Thr Gln Ala Gly Glu Ile Gln His  
 20 25 30  
 Arg Val Leu Thr Arg Leu Val Lys Gln Ala Glu Asn Thr Glu Trp Gly  
 35 40 45  
 Lys Lys Tyr Asp Tyr Lys Ser Ile Arg Asn Tyr Glu Asp Phe Lys Asn  
 50 55 60  
 Arg Leu Pro Ile Gln Thr Tyr Glu Glu Val Lys Pro Tyr Val Glu Arg  
 65 70 75 80  
 Leu Arg Ala Gly Glu Gln Asn Leu Leu Trp Pro Ser Glu Ile Arg Trp  
 85 90 95  
 Phe Ala Lys Ser Ser Gly Thr Thr Asn Asp Lys Ser Lys Phe Leu Pro  
 100 105 110  
 Val Ser Lys Glu Ala Leu Glu Asp Ile His Tyr Arg Gly Gly Lys Asp  
 115 120 125  
 Ala Ala Ala Ile Tyr Phe Arg Met Asn Pro Glu Ser Arg Phe Phe Ser  
 130 135 140  
 Gly Lys Gly Leu Ile Leu Gly Gly Ser His Ser Pro Asn Leu Asn Ser  
 145 150 155 160  
 Asn His Ser Leu Val Gly Asp Leu Ser Ala Ile Leu Ile Gln Asn Val  
 165 170 175  
 Ser Pro Leu Ile Asn Leu Ile Arg Val Pro Ser Lys Gln Ile Ala Leu  
 180 185 190  
 Met Asp Glu Trp Glu Ala Lys Ile Glu Ala Ile Ala Asn Ser Thr Ile  
 195 200 205  
 Pro Val Asp Val Thr Asn Leu Ser Gly Val Pro Ser Trp Met Leu Val  
 210 215 220  
 Leu Ile Lys Arg Ile Leu Glu Lys Thr Gly Lys Gln Thr Leu Glu Glu  
 225 230 235 240  
 Val Trp Pro Asn Leu Glu Val Phe Phe His Gly Gly Val Ala Phe Thr  
 245 250 255

Pro Tyr Arg Glu Gln Tyr Arg Gln Val Ile His Ser Ser Lys Met His  
 260 265 270  
 Tyr Val Glu Thr Tyr Asn Ala Ser Glu Gly Tyr Phe Gly Thr Gln Asn  
 275 280 285  
 Asp Leu Ser Asp Pro Ser Met Leu Leu Met Ile Asp Tyr Gly Val Phe  
 290 295 300  
 Tyr Glu Phe Ile Pro Leu Glu Asp Val Glu Lys Glu Asn Pro Arg Thr  
 305 310 315 320  
 Tyr Cys Leu Glu Glu Val Glu Leu Asn Lys Asn Tyr Ala Met Val Ile  
 325 330 335  
 Ser Thr Ser Cys Gly Leu Trp Arg Tyr Met Ile Gly Asp Thr Val Lys  
 340 345 350  
 Phe Thr Arg Lys Asn Pro Tyr Lys Phe Val Ile Thr Gly Arg Thr Lys  
 355 360 365  
 His Phe Ile Asn Ala Phe Gly Glu Glu Leu Ile Val Asp Asn Ala Glu  
 370 375 380  
 Lys Gly Leu Ala Lys Ala Cys Ala Glu Thr Gly Ala Gln Val Ser Glu  
 385 390 395 400  
 Tyr Ser Ala Ala Pro Val Phe Met Asp Ala Asn Ala Lys Cys Arg His  
 405 410 415  
 Gln Trp Leu Ile Glu Phe Ala Lys Met Pro Asp Ser Ile Glu Lys Phe  
 420 425 430  
 Ala Met Ile Leu Asp Ala Thr Leu Lys Glu Val Asn Ser Asp Tyr Glu  
 435 440 445  
 Ala Lys Arg Trp Lys Asp Ile Ala Leu Gln Pro Leu Glu Val Ile Val  
 450 455 460  
 Ala Arg Lys Gly Leu Phe His Asp Trp Leu Ala Lys Lys Gly Lys Leu  
 465 470 475 480  
 Gly Gly Gln His Lys Val Pro Arg Leu Ser Asn Thr Arg Asp Tyr Ile  
 485 490 495  
 Glu Glu Met Ile Ala Leu Asn Glu Arg  
 500 505

&lt;210&gt; 6942

&lt;211&gt; 173

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6942

Arg Leu Met Asn Met Asp Tyr Lys Tyr Ile Glu Gln Leu Leu Glu Arg  
 1 5 10 15  
 Tyr Trp Gln Cys Glu Thr Ser Leu Glu Glu Ser Glu Leu Arg Ser  
 20 25 30  
 Phe Phe Ser Glu Glu Val Pro Ala His Leu Leu Arg Tyr Lys Glu  
 35 40 45  
 Leu Phe Val Tyr Gln Thr Val Gln Gln Glu Ala Gly Leu Gly Lys Asp  
 50 55 60  
 Phe Asp Ala Arg Ile Leu Ala Gln Val Glu Ala Pro Val Val Lys Ala  
 65 70 75 80  
 Lys His Leu Thr Met Val Gly Arg Phe Met Pro Leu Phe Lys Ala Ala  
 85 90 95  
 Ala Val Val Ala Leu Ile Leu Ser Leu Gly Asn Val Ala Gln His Thr  
 100 105 110  
 Phe Phe Ala Glu Glu Ala Leu Asp Tyr Asn Tyr Asp Ala Tyr Lys Asp  
 115 120 125  
 Thr Tyr Asp Asp Pro Glu Val Ala Tyr Lys Gln Val Ser Ser Ala Leu  
 130 135 140  
 Met Met Leu Ser Glu Gly Ile Asn Lys Ser Gln Asp Gln Val Val Arg  
 145 150 155 160

Asp Ser Val Lys Val Glu Pro Val Arg Val Met Lys Glu  
 165   170

<210> 6943

<211> 136

<212> PRT

<213> B.fragilis

<400> 6943

Thr Lys Ser Lys Asn Leu Arg Val Ala Pro Ser Lys Lys Arg Glu Ala  
 1                 5   10                                   15  
 Met Lys Arg Asp Ile Ile Ile Ile Glu Asp Lys Ala Val Ser Val Thr  
 20   25                                   30  
 Gly Asn Glu Ile Trp Met Thr Ala Gly Glu Ile Ala Gly Leu Phe His  
 35   40                                   45  
 Thr Gly Val Pro Thr Val Asn Ala Ala Ile Lys Ala Ile Leu Lys Ala  
 50   55                                   60  
 Asp Val Leu Ser Asp Tyr Glu Val Cys Arg Tyr Ile Gln Leu Glu Asn  
 65   70                                   75                                   80  
 Gly Leu Tyr Ala Asp Val Tyr Ser Leu Glu Ile Ile Ile Pro Ile Ala  
 85   90                                   95  
 Phe Arg Leu Asn Thr Tyr Cys Thr His Val Phe Arg Thr Trp Leu Val  
 100   105                                   110  
 Gly Lys Ala Leu Ser Lys Glu Lys Arg Gln Ala Tyr Val Met Phe Ile  
 115   120                                   125  
 Gln Asn Gly Lys Ala Gly Tyr Cys  
 130   135

<210> 6944

<211> 599

<212> PRT

<213> B.fragilis

<400> 6944

His Pro Gln Asn Lys Ser Met Asp Ile Gln Leu Ser Ala Gln Gln Gln  
 1                 5   10                                   15  
 Ala Val Val Asp Cys Asn Glu Pro Arg Ile Val Val Lys Ala Cys Pro  
 20   25                                   30  
 Gly Ser Gly Lys Thr Phe Ser Val Ala Ala Arg Met Ala Lys Leu Leu  
 35   40                                   45  
 Gln Glu Asn Asn Leu Ser Arg His Gln Gly Ile Ala Ala Ile Ser Phe  
 50   55                                   60  
 Thr Asn Thr Ala Cys Glu Val Ile Gln Lys Glu Leu Lys Glu Thr Phe  
 65   70                                   75                                   80  
 Gly Cys Arg Asn Ile Asp Tyr Pro Ser Phe Ile Gly Thr Ile Asp Ser  
 85   90                                   95  
 Phe Ile Asn Thr Tyr Ile Phe Leu Pro Tyr Ala His Leu Val Met Gly  
 100   105                                   110  
 Cys Asn Tyr Arg Pro Glu Ile Val Gly Thr Thr Phe Asn Lys Trp Phe  
 115   120                                   125  
 Asp Tyr Asp Pro Thr Gln Thr Arg Tyr Ile Arg Gly Lys Leu Gly Glu  
 130   135                                   140  
 Arg Ile Ile Thr Ser Arg Asp Ala Asn Tyr Tyr Phe Asp Leu Ile Ser  
 145   150                                   155                                   160  
 Phe Gly Leu Asn Asp Gln Leu Leu Arg Leu Ala Pro Tyr Gln Ala Tyr  
 165   170                                   175  
 His Phe Gly Lys Ala Asp Trp Asp Asn Pro Asn Lys Lys Asp Gly Ser  
 180   185                                   190  
 Pro Lys Lys Val Ile Ser Glu Leu Lys Glu Met Lys Trp Lys His Phe

195	200	205
Asn Ala Gly Lys Val Asn Gln	Ala Asp Ala Ile Tyr	Phe Thr Phe Arg
210	215	220
Ile Leu Asp Lys Tyr Pro Ser	Ile Ala Gln Asn Ile Val Arg Arg Phe	
225	230	235
Pro Ile Leu Ile Ile Asp Glu Ala Gln Asp Thr Thr Glu Leu Gln Met		240
245	250	255
Ala Ile Ile Asp Lys Leu Ser Gln Cys Gly Ala Glu Ser Ile Met Leu		
260	265	270
Ile Gly Asp Pro Asp Gln Ala Ile Phe Glu Trp Asn Thr Ala Asn Pro		
275	280	285
His Leu Phe Met Glu Lys Tyr Asn Ser Pro Asp Trp His Ser Leu Asp		
290	295	300
Leu Ser Glu Asn Arg Arg Ser Ser Glu Lys Ile Cys Gln Leu Ala Asn		
305	310	315
His Phe Ser Gly Asn Glu Met Cys Ser Ile Ala Ser Asp Lys Asp Tyr		320
325	330	335
Thr Asp Glu Pro Cys Ile Lys Gly His Leu Asp Thr Pro Glu Ser Val		
340	345	350
Asn Gln Ile Thr Asn His Phe Ile Glu Lys Cys Asn Glu Met Gly Leu		
355	360	365
Asp Glu Ser Glu Tyr Ala Val Val Phe Arg Gly Gln Lys Phe Gly Glu		
370	375	380
Thr Asn Phe Gly Leu Val Asn Asn Asp Asn Ser Ser Lys Gln Asn Ser		
385	390	395
Pro Trp Ile Asn Gly His Tyr Gly Val Arg Asp Ile Val Tyr Gly Lys		
405	410	415
Tyr Leu Ile Asp His Gly Lys Tyr Thr Asp Gly Leu Ser Leu Ile Glu		
420	425	430
Lys Gly Cys Tyr Lys Ile Thr Lys Arg Val Arg Tyr Val Ser Ser Ser		
435	440	445
Thr Met Arg Arg Glu Ile Ala Glu Val Gly Phe Arg Arg His Arg Ala		
450	455	460
Glu Met Phe Asp Phe Ile Gln Lys Leu Pro Ser Thr Asn Asp Thr Leu		
465	470	475
Ser Asn Trp Ile Thr Lys Leu Gln Gln Met Gly Ile Asn Leu Thr Val		
485	490	495
Asp Leu Gly Lys Ala Asn Val Arg Ile Glu Ser Leu Phe Arg Thr Val		
500	505	510
Asn His Gln Phe Arg Gln Glu Arg Pro Tyr Leu Lys Thr Ile His Ser		
515	520	525
Val Lys Gly Met Thr Leu Glu Ala Ile Leu Val Phe Leu Ser Lys Lys		
530	535	540
Ala Val His Thr Asn Tyr Thr Thr Ile Leu Asn Asn Pro Ala Lys Tyr		
545	550	555
Ser Val Asp Asn Asn Glu Glu Leu Arg Ile Val Tyr Val Ala Cys Thr		
565	570	575
Arg Pro Lys Lys Leu Leu Trp Ile Ala Val Pro Ser Asp Asp Ile Asp		
580	585	590
Cys Trp Arg Asn Lys Leu Phe		
595		

&lt;210&gt; 6945

&lt;211&gt; 489

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6945

Ile Lys Phe Asp Gly Met Thr Lys Pro Leu Val Ser Val Val Ile Pro

1	5	10	15
Val Tyr Asn Met Glu Glu Phe Leu Glu Glu Thr Leu Asp Ser Val Leu			
20	25	30	
Ser Ser Asp Tyr Pro Asn Phe Glu Val Ile Val Met Asp Asp Gly Ser			
35	40	45	
Lys Asp Arg Ser Leu Glu Ile Ala Glu Ser Tyr Lys Ser Arg Tyr Glu			
50	55	60	
Asn Val Arg Val Tyr Thr Gln Val Asn Ser Gly Val Ala Thr Ala Arg			
65	70	75	80
Asn His Ala Ile Ser Lys Ala Gly Gly Val Tyr Ile Leu Pro Val Asp			
85	90	95	
Ala Asp Asn Arg Ile Ser Lys Glu Leu Ile His Ser Ala Val Asp Ile			
100	105	110	
Leu Glu Ser Glu Pro Glu Val Lys Val Val Cys Pro Arg Ala Glu Phe			
115	120	125	
Phe Gly Asp Arg Ser Gly Glu Trp Val Leu Pro Pro Phe Ser Leu Ser			
130	135	140	
Leu Leu Ala Arg Lys Asn Met Met Asp Thr Cys Ala Val Tyr Arg Lys			
145	150	155	160
Ser Glu Trp Glu Arg Ile Gly Gly Tyr Cys Ala Glu Ile Val Ala Arg			
165	170	175	
Glu Asp Trp Glu Phe Trp Ile Ser Met Leu Lys Asp Gly Gly Lys Val			
180	185	190	
Val Lys Leu Pro Glu Ile Gly Leu Phe Tyr Arg Val Arg Glu Gln Ser			
195	200	205	
Lys Arg Val Thr Asp Arg Leu Leu Lys Lys His Val Ile Asp Val Leu			
210	215	220	
Asn Arg Arg His Pro Asp Phe Phe Glu Arg Glu Leu Gly Gly Pro Leu			
225	230	235	240
Arg Tyr Gln Arg Ser Trp Ser Arg Leu Ile Asn Arg Ile Ser Arg Ile			
245	250	255	
Ile His Pro Arg Arg Val Phe Val Gly Asp Asp Phe Gln Asp Leu Ser			
260	265	270	
Ser Phe Val Arg Val Leu Pro Val His Phe Glu Asn Gly Gly Thr Leu			
275	280	285	
Ile Tyr Glu Gly Arg Asn Lys Leu Lys Glu Phe Glu Ile His Gly Arg			
290	295	300	
Lys Leu Ile Val Lys Ser Tyr Gln Leu Pro His Leu Ile Asn Arg Val			
305	310	315	320
Val Tyr Asn Ser Phe Arg Ala Ser Lys Ala Arg Arg Ser Tyr Gln Tyr			
325	330	335	
Ala Gln Met Leu Arg Lys Ala Gly Ile Gly Ser Pro Ala Pro Val Gly			
340	345	350	
Phe Tyr Ser Thr Gly Thr Trp Leu Leu Phe Gly Arg Ser Tyr Phe Val			
355	360	365	
Ser Leu Lys Ser Glu Cys Pro Tyr Thr Tyr Arg Asn Leu Leu Glu Glu			
370	375	380	
Thr Phe Thr Gly Asp Lys Glu Lys Val Leu Arg Ala Ile Ala Arg Thr			
385	390	395	400
Thr Ala Ala Leu His Glu Asn Gly Phe Leu His Lys Asp Tyr Ser Gly			
405	410	415	
Gly Asn Ile Leu Phe Arg Glu Thr Asp Lys Gly Ile Glu Val Glu Ile			
420	425	430	
Ile Asp Leu Asn Arg Met Arg Phe Gly Lys Val Asp Ile Glu Thr Gly			
435	440	445	
Cys Lys Asn Phe Glu Arg Leu Pro Gly Thr His Glu Met Phe Val Ile			
450	455	460	
Leu Ala Asp Glu Tyr Ala Lys Val Arg Gly Phe Asp Ala Asp Arg Cys			
465	470	475	480

Leu Glu Leu Ile Glu Lys Ser His Leu  
485

<210> 6946

<211> 343

<212> PRT

<213> B.fragilis

<400> 6946

Leu	Phe	Asn	Asp	Met	Asn	Asp	Ser	Leu	Leu	Tyr	Lys	Leu	Ser	Ser	Gly
1				5					10					15	
Lys	Pro	Pro	Lys	Phe	Ile	Tyr	Phe	Ile	Ser	Asn	Thr	Leu	Asn	Met	Leu
					20				25					30	
Ile	Pro	Asn	Ala	Phe	Tyr	Arg	Tyr	Lys	Leu	Lys	Ser	Thr	Leu	Ala	Gln
						35		40			45				
Leu	Gln	Tyr	Arg	Ser	Asp	Lys	Asp	Tyr	Ile	Glu	Glu	Arg	Val	Asn	Tyr
						50		55			60				
Tyr	Asn	Lys	Leu	Ser	Ser	Pro	Ser	Ser	Leu	Pro	Glu	Lys	Ser	Phe	Ile
						65		70		75				80	
Lys	Asn	Glu	Phe	Arg	Tyr	Leu	Ile	Phe	Leu	Gly	Thr	Leu	Ala	Asp	Asn
						85			90				95		
Lys	Lys	Ser	Leu	Phe	His	Thr	Ala	Tyr	Phe	Phe	Asp	Thr	Arg	Glu	Tyr
						100			105				110		
Thr	Arg	Trp	Phe	Lys	Gln	Ser	Leu	Arg	Trp	Gly	Tyr	Cys	Pro	Gly	Asp
						115		120			125				
Val	Tyr	Phe	Thr	Pro	Glu	Phe	Pro	Ser	Ile	Val	Lys	Ser	Arg	Leu	Leu
						130		135			140				
Thr	Asp	Ser	Asn	Asp	Asn	Ser	Val	Val	Met	Lys	Leu	Asp	Lys	Phe	Arg
						145		150		155				160	
His	Phe	Met	Phe	Val	Asn	Asp	Thr	Met	Pro	Phe	Ser	Ser	Lys	Lys	Asp
						165			170				175		
Met	Val	Ile	Phe	Arg	Gly	Lys	Ile	Arg	Arg	Ser	Arg	Thr	Arg	Lys	Leu
						180			185				190		
Phe	Leu	Glu	Met	Tyr	Met	Asp	His	Pro	Met	Cys	Asp	Cys	Gly	Val	Val
						195			200				205		
Gly	Lys	Asp	Glu	Gly	Val	Pro	Asp	Ala	Trp	Met	Thr	Pro	Lys	Lys	Thr
						210		215			220				
Ile	Arg	Gln	His	Leu	Asp	Tyr	Lys	Phe	Ile	Met	Ala	Leu	Glu	Gly	Asn
						225		230		235				240	
Asp	Val	Ala	Ser	Asn	Leu	Lys	Trp	Val	Met	Ser	Ser	Asn	Ser	Ile	Ala
						245			250				255		
Val	Met	Pro	Arg	Pro	Thr	Cys	Glu	Thr	Trp	Phe	Met	Glu	Gly	Lys	Leu
						260			265				270		
Ile	Pro	Asn	Tyr	His	Tyr	Ile	Glu	Ile	Lys	Pro	Asp	Phe	Thr	Asp	Leu
						275		280			285				
Glu	Glu	Arg	Leu	Lys	His	Tyr	Ile	Glu	His	Pro	Glu	Glu	Ala	Gln	Gln
						290		295			300				
Ile	Ile	Glu	His	Ala	His	Glu	Tyr	Val	Ala	Gln	Phe	Arg	Asn	Pro	Arg
						305		310		315				320	
Arg	Glu	Lys	Leu	Ile	Ser	Leu	Leu	Val	Leu	Asp	Lys	Tyr	Phe	Arg	Met
						325			330				335		
Thr	Gly	Gln	Asn	Ile	Glu	Asp									
						340									

<210> 6947

<211> 658

<212> PRT

<213> B.fragilis

&lt;400&gt; 6947

Lys Val Arg Phe Asp Asn Ala Ser Ile Val Val Tyr Tyr Cys Leu Ile  
 1 5 10 15  
 Gln Met Asn Ile Ile Asn Leu Gly Ile Leu Ala His Ile Asp Ala Gly  
 20 25 30  
 Lys Thr Ser Val Thr Glu Asn Leu Leu Phe Ala Ser Gly Ala Thr Glu  
 35 40 45  
 Lys Cys Gly Arg Val Asp Asn Gly Asp Thr Ile Thr Asp Ser Met Asp  
 50 55 60  
 Ile Glu Lys Arg Arg Gly Ile Thr Val Arg Ala Ser Thr Thr Ser Ile  
 65 70 75 80  
 Ile Trp Asn Gly Val Lys Cys Asn Ile Ile Asp Thr Pro Gly His Met  
 85 90 95  
 Asp Phe Ile Ala Glu Val Glu Arg Thr Phe Lys Met Leu Asp Gly Ala  
 100 105 110  
 Val Leu Ile Leu Ser Ala Lys Glu Gly Ile Gln Ala Gln Thr Lys Leu  
 115 120 125  
 Leu Phe Asn Thr Leu Gln Lys Leu Gln Ile Pro Thr Ile Ile Phe Ile  
 130 135 140  
 Asn Lys Ile Asp Arg Asp Gly Val Asn Leu Glu Arg Leu Tyr Leu Asp  
 145 150 155 160  
 Ile Lys Thr Asn Leu Ser Gln Asp Val Leu Phe Met Gln Thr Val Val  
 165 170 175  
 Asp Gly Leu Val Tyr Pro Ile Cys Ser Gln Thr Tyr Ile Lys Glu Glu  
 180 185 190  
 Tyr Lys Glu Phe Val Cys Asn His Asp Asp Asn Ile Leu Glu Arg Tyr  
 195 200 205  
 Leu Ala Asp Ser Glu Ile Ser Pro Ala Asp Tyr Trp Asn Thr Ile Ile  
 210 215 220  
 Asp Leu Val Ala Lys Ala Lys Val Tyr Pro Val Leu His Gly Ser Ala  
 225 230 235 240  
 Met Phe Asn Ile Gly Ile Asn Glu Leu Leu Asp Ala Ile Ser Ser Phe  
 245 250 255  
 Ile Leu Pro Pro Glu Ser Val Ser Asn Arg Leu Ser Ala Tyr Leu Tyr  
 260 265 270  
 Lys Ile Glu His Asp Pro Lys Gly His Lys Arg Ser Phe Leu Lys Ile  
 275 280 285  
 Ile Asp Gly Ser Leu Arg Leu Arg Asp Ile Val Arg Ile Asn Asp Ser  
 290 295 300  
 Glu Lys Phe Ile Lys Ile Lys Asn Leu Lys Thr Ile Tyr Gln Gly Arg  
 305 310 315 320  
 Glu Ile Asn Val Asp Glu Val Gly Ala Asn Asp Ile Ala Ile Val Glu  
 325 330 335  
 Asp Met Glu Asp Phe Arg Ile Gly Asp Tyr Leu Gly Thr Lys Pro Cys  
 340 345 350  
 Leu Ile Gln Gly Leu Ser His Gln His Pro Ala Leu Lys Ser Ser Val  
 355 360 365  
 Arg Pro Asp Arg Ser Glu Glu Arg Ser Lys Val Ile Ser Ala Leu Asn  
 370 375 380  
 Thr Leu Trp Ile Glu Asp Pro Ser Leu Ser Phe Ser Ile Asn Ser Tyr  
 385 390 395 400  
 Ser Asp Glu Leu Glu Ile Ser Leu Tyr Gly Leu Thr Gln Lys Glu Ile  
 405 410 415  
 Ile Gln Thr Leu Leu Glu Arg Phe Ser Val Lys Val His Phe Asp  
 420 425 430  
 Glu Ile Lys Thr Ile Tyr Lys Glu Arg Pro Val Lys Lys Val Asn Lys  
 435 440 445  
 Ile Ile Gln Ile Glu Val Pro Pro Asn Pro Tyr Trp Ala Thr Ile Gly  
 450 455 460

Leu Thr Leu Glu Pro Leu Pro Leu Gly Thr Gly Leu Gln Ile Glu Ser  
 465 470 475 480  
 Asp Ile Ser Tyr Gly Tyr Leu Asn His Ser Phe Gln Asn Ala Val Phe  
       485 490 495  
 Glu Gly Ile Arg Met Ser Cys Gln Ser Gly Leu His Gly Trp Glu Val  
       500 505 510  
 Thr Asp Leu Lys Val Thr Phe Thr Gln Ala Glu Tyr Tyr Ser Pro Val  
       515 520 525  
 Ser Thr Pro Ala Asp Phe Arg Gln Leu Thr Pro Tyr Val Phe Arg Leu  
       530 535 540  
 Ala Leu Gln Gln Ser Gly Val Asp Ile Leu Glu Pro Met Leu Tyr Phe  
       545 550 555 560  
 Glu Leu Gln Ile Pro Gln Ala Ala Ser Ser Lys Ala Ile Thr Asp Leu  
       565 570 575  
 Gln Lys Met Met Ser Glu Ile Glu Asp Ile Ser Cys Asn Asn Glu Trp  
       580 585 590  
 Cys His Ile Lys Gly Lys Val Pro Leu Asn Thr Ser Lys Asp Tyr Ala  
       595 600 605  
 Ser Glu Val Ser Ser Tyr Thr Lys Gly Leu Gly Val Phe Met Val Lys  
       610 615 620  
 Pro Cys Gly Tyr Gln Ile Thr Lys Gly Asp Tyr Ser Asp Asn Ile Arg  
       625 630 635 640  
 Met Asn Glu Lys Asp Lys Leu Leu Phe Met Phe Gln Lys Ser Met Ser  
       645 650 655  
 Ser Lys

&lt;210&gt; 6948

&lt;211&gt; 703

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6948

Arg Gly Ser Leu His Pro Gly Asp Ala Ala Gln Glu Glu Lys Glu Glu  
 1           5           10           15  
 Ala Gln Gly Leu Gly Asp Val Ile Arg Ser Ile Asn Asn Gln Lys Asn  
       20           25           30  
 Gln Cys Met Ser Gln Gln Glu Asp Asp Leu Arg Ala Leu Ala Lys Ile  
       35           40           45  
 Met Asp Phe Leu Arg Ala Val Ser Ile Ile Leu Val Val Met Asn Val  
       50           55           60  
 Tyr Trp Phe Cys Tyr Glu Ala Ile Arg Leu Trp Gly Val Asp Ile Gly  
       65           70           75           80  
 Val Val Asp Arg Ile Leu Met Asn Phe Asn Arg Thr Ala Gly Leu Phe  
       85           90           95  
 Arg Ser Ile Leu Tyr Thr Lys Leu Phe Ala Val Leu Leu Ala Leu  
       100          105          110  
 Ser Cys Leu Gly Thr Lys Gly Val Lys Gly Glu Lys Ile Thr Trp Gly  
       115          120          125  
 Arg Ile Trp Thr Ala Leu Ala Val Gly Phe Val Leu Phe Phe Leu Asn  
       130          135          140  
 Trp Trp Ile Leu Ala Leu Pro Leu Pro Ile Glu Ala Val Thr Gly Leu  
       145          150          155          160  
 Tyr Ile Leu Thr Val Gly Ala Gly Tyr Val Cys Leu Leu Met Gly Gly  
       165          170          175  
 Leu Trp Met Ser Arg Leu Leu Lys His Asn Leu Met Asp Asp Val Phe  
       180          185          190  
 Asn Asn Glu Asn Glu Ser Phe Met Gln Glu Thr Arg Leu Ile Glu Ser  
       195          200          205

Glu Tyr Ser Val Asn Leu Pro Thr Arg Phe Tyr Tyr Lys Lys Arg Trp  
 210 215 220  
 Asn Asn Gly Trp Ile Asn Val Val Asn Pro Phe Arg Ala Ser Ile Val  
 225 230 235 240  
 Leu Gly Thr Pro Gly Ser Gly Lys Ser Tyr Ala Val Val Asn Asn Phe  
 245 250 255  
 Ile Lys Gln Gln Ile Glu Lys Gly Phe Ser Met Tyr Val Tyr Asp Phe  
 260 265 270  
 Lys Phe Ser Asp Leu Ser Thr Ile Ala Tyr Asn His Leu Leu Asn His  
 275 280 285  
 Pro Glu Gly Tyr Lys Val Lys Pro Lys Phe Tyr Val Ile Asn Phe Asp  
 290 295 300  
 Asp Pro Arg Arg Ser His Arg Cys Asn Pro Ile His Pro Asp Phe Met  
 305 310 315 320  
 Glu Asp Ile Thr Asp Ala Tyr Glu Ser Ala Tyr Thr Ile Met Leu Asn  
 325 330 335  
 Leu Asn Lys Ser Trp Val Gln Lys Gln Gly Asp Phe Phe Val Glu Ser  
 340 345 350  
 Pro Ile Ile Leu Phe Ala Ala Ile Ile Trp Tyr Leu Lys Ile Phe Arg  
 355 360 365  
 Asn Gly Lys Tyr Cys Thr Phe Pro His Ala Ile Glu Phe Leu Asn Arg  
 370 375 380  
 Arg Tyr Glu Asp Ile Phe Pro Ile Leu Thr Ser Tyr Pro Glu Leu Glu  
 385 390 395 400  
 Asn Tyr Leu Ser Pro Phe Met Asp Ala Trp Leu Gly Gly Ala Ala Glu  
 405 410 415  
 Gln Leu Met Gly Gln Ile Ala Ser Ala Lys Ile Pro Leu Ser Arg Met  
 420 425 430  
 Ile Ser Pro Gln Leu Tyr Trp Val Met Ser Asp Ser Glu Phe Thr Leu  
 435 440 445  
 Asp Ile Asn Asn Pro Glu Glu Pro Lys Ile Leu Cys Val Gly Asn Asn  
 450 455 460  
 Pro Asp Arg Gln Asn Ile Tyr Gly Ala Ala Leu Gly Leu Tyr Asn Ser  
 465 470 475 480  
 Arg Ile Val Lys Leu Ile Asn Lys Lys Gly Met Leu Lys Ser Ser Val  
 485 490 495  
 Ile Ile Asp Glu Leu Pro Thr Ile Tyr Phe Lys Gly Leu Asp Asn Leu  
 500 505 510  
 Ile Ala Thr Ala Arg Ser Asn Lys Val Ala Val Cys Leu Gly Phe Gln  
 515 520 525  
 Asp Phe Ser Gln Leu Val Arg Asp Tyr Gly Asp Lys Glu Ala Lys Val  
 530 535 540  
 Val Met Asn Thr Val Gly Asn Ile Phe Ser Gly Gln Val Val Gly Glu  
 545 550 555 560  
 Thr Ala Lys Thr Leu Ser Glu Arg Phe Gly Lys Val Leu Gln Lys Arg  
 565 570 575  
 Gln Ser Ile Ser Ile Asn Arg Gln Asp Val Ser Thr Ser Ile Asn Thr  
 580 585 590  
 Gln Met Asp Ala Leu Ile Pro Pro Ser Lys Ile Ser Gly Leu Thr Gln  
 595 600 605  
 Gly Met Phe Val Gly Ser Val Ser Asp Asn Phe Asn Glu Arg Ile Glu  
 610 615 620  
 Gln Lys Ile Phe His Cys Glu Ile Val Val Asp Ala Glu Lys Val Lys  
 625 630 635 640  
 Arg Glu Glu Lys Ala Tyr Lys Lys Ile Pro Val Ile Thr Asp Phe Thr  
 645 650 655  
 Asp Glu Asn Gly Asn Asp Arg Met Lys Glu Thr Val Gln Glu Asn Tyr  
 660 665 670  
 Arg Arg Ile Lys Glu Glu Val Lys Gln Ile Val Gln Glu Glu Leu Glu

675	680	685
Arg Ile Ala Asn Asp Glu Asn Leu Lys His Leu Leu Gln Gln Lys		
690	695	700

<210> 6949  
<211> 249  
<212> PRT  
<213> B.fragilis

<400> 6949

Ala Val Gly Glu Asp Tyr Lys Thr Arg Ile Leu Arg Asn Gly Tyr Ser			
1	5	10	15
Leu Arg Thr Tyr Tyr His Arg Leu Ser Val Glu Tyr Thr Lys Met Arg			
20	25	30	
Glu Tyr Ala Lys Ala Lys Glu Cys Ile Asp Lys Met Leu Ala Glu Lys			
35	40	45	
Met Asp Asp Leu Thr Cys Glu Ala Cys Glu Leu Asn Phe Met Leu Asp			
50	55	60	
Tyr Tyr Leu Glu Thr Gly Gln Phe Glu Glu Ala Tyr Asn Arg Ala Gln			
65	70	75	80
Pro Leu Ile Thr Arg Gln Val Ser Cys Tyr Glu Ala Asn Leu Arg Ala			
85	90	95	
Tyr Met Lys Leu Ala Tyr Tyr Ala Cys Lys Ala Gly Lys Pro Glu Ile			
100	105	110	
Ala Ala Asp Met Cys Ala Arg Ala Glu Glu Ala Leu Val Gly Arg Glu			
115	120	125	
Lys Asp Glu Tyr Leu Leu Tyr Leu Gly Leu Phe Ile Ala Tyr Tyr			
130	135	140	
Phe Met Thr His Pro Asp Arg Gly Trp Glu Tyr Ala Glu Arg Cys Ile			
145	150	155	160
Pro Trp Ser Leu Asn Thr Asn Met Gln Lys Lys Tyr Arg Phe Ser Cys			
165	170	175	
Asp Met Val Glu Ala Leu Ser Tyr Glu Ser His Glu Glu Val Ser Leu			
180	185	190	
Ser Leu Pro Glu Glu Phe Pro Leu Tyr Arg Ala Asp Gly Ile Tyr Ser			
195	200	205	
Val Ala Ala Leu Arg Asp Tyr Phe Tyr Lys Gln Ala Thr Gln Leu Ala			
210	215	220	
Ser Leu Tyr Asp Thr Arg Asn Gly Asn Asn Gly Tyr Gln Glu Arg Leu			
225	230	235	240
Phe Asn Val Asn Leu Ile Gly Asn Leu			
245			

<210> 6950  
<211> 233  
<212> PRT  
<213> B.fragilis

<400> 6950

Phe Leu Leu Asp Ile Leu Ser Met Arg Ile Leu Tyr Val Leu Phe Phe			
1	5	10	15
Leu Leu Thr Leu Asn Ser Cys Gln Lys Val Lys Glu Lys Glu Val Val			
20	25	30	
Arg Leu Met Lys Glu Trp Asn Arg Lys Glu Val Leu Phe Pro Asp Asp			
35	40	45	
Leu Leu Phe Thr Val Leu Glu Lys Asp Thr Leu Lys Glu Ile Pro Lys			
50	55	60	
Ser Asp Tyr Thr Ile Ile Thr Tyr Val Asp Ser Ile Gly Cys Thr Ser			
65	70	75	80

<210> 6951

<211> 599

<212> PRT

<213> B. fragilis

<400> 6951

Lys	Leu	Leu	Glu	Glu	Asp	Asn	Asp	Lys	Asn	Arg	Met	Glu	Lys	Glu	Gly
1			5					10					15		
Asn	Asn	Leu	Phe	Gln	Val	Asn	Leu	Lys	Gly	Met	Ile	Ala	Leu	Leu	Ser
			20					25					30		
Glu	His	Ile	Tyr	Ser	Asn	Pro	Asn	Thr	Phe	Val	Arg	Glu	Leu	Leu	Gln
			35					40				45			
Asn	Ser	Val	Asp	Ala	Ile	Thr	Ala	Leu	His	Asn	Ile	Asp	Glu	Asn	Tyr
			50					55				60			
Ser	Gly	Arg	Ile	Asp	Val	Phe	Leu	Asn	Gly	Asp	Gly	Ser	Met	Val	Phe
			65					70			75				80
Gln	Asp	Asn	Gly	Ile	Gly	Leu	Lys	Glu	Glu	Glu	Val	Tyr	Arg	Phe	Leu
				85					90					95	
Thr	Val	Ile	Gly	Glu	Ser	Ser	Lys	Arg	Asp	Thr	Pro	Asp	Ala	Asp	Asp
			100					105					110		
Phe	Ile	Gly	Arg	Phe	Gly	Ile	Gly	Leu	Leu	Ser	Cys	Phe	Val	Val	Thr
			115					120					125		
Asn	Glu	Ile	Arg	Val	Glu	Ser	Arg	Ser	Ala	Met	Gly	Gly	Asn	Pro	Val
			130					135				140			
Cys	Trp	Cys	Gly	Lys	Val	Asp	Gly	Thr	Tyr	Gln	Thr	Thr	Phe	Pro	Asp
			145					150			155				160
Glu	Glu	Trp	Glu	Ile	Gly	Ser	Arg	Val	Val	Leu	Arg	Pro	Lys	Asn	Glu
					165				170					175	
Trp	Ala	His	Leu	Phe	Glu	Tyr	Glu	Val	Phe	Lys	Lys	Ile	Leu	Val	Asn
				180				185					190		
Tyr	Gly	Glu	Val	Leu	Pro	Tyr	Pro	Val	Tyr	Leu	His	Arg	Gly	Glu	Glu
			195					200				205			
Glu	Glu	Leu	Val	Asn	Thr	Pro	Ser	Pro	Val	Trp	Leu	Asp	Pro	Lys	Ala
			210					215				220			
Thr	Arg	Lys	Glu	Leu	Leu	Asp	Tyr	Gly	Thr	Lys	Val	Phe	Gln	Ser	Ser
			225					230			235				240
Ala	Leu	Asp	Ala	Phe	Pro	Ile	Arg	Thr	Glu	His	Gly	Arg	Ile	Glu	Gly
				245				250					255		

Val Leu Tyr Val Leu Pro Phe Arg Thr Gln Phe Ser Val Arg Asn Ser  
     260                  265                  270  
 His Lys Val Tyr Leu Lys Arg Met Leu Leu Ser Glu Asp Asp Cys Asn  
     275                  280                  285  
 Leu Leu Pro Ser Trp Ala Phe Phe Ile Arg Cys Leu Val Asn Ala Asp  
     290                  295                  300  
 Gly Leu Leu Ser Thr Ala Ser Arg Glu Ser Phe Val Ser Asn Asp Ser  
     305                  310                  315                  320  
 Leu Lys Asp Ala Arg Lys Glu Ile Gly Val Ala Ile Lys Glu Tyr Leu  
     325                  330                  335  
 Arg Ala Leu Val Gln Asn Asn Arg Ser Val Phe Asn Lys Ile Leu Asp  
     340                  345                  350  
 Val His His Phe His Ile Lys Ala Ile Ala Ser Glu Asp Asn Glu Leu  
     355                  360                  365  
 Leu Arg Leu Phe Met Asp Tyr Leu Pro Phe Glu Thr Asn Lys Gly Ile  
     370                  375                  380  
 Arg Ser Phe Gly Ser Ile Arg Ser Ser Asn Asn Thr Ile Tyr Tyr Thr  
     385                  390                  395                  400  
 Arg Asn Leu Glu Asp Phe Arg Gln Val Arg Arg Ile Ala Gly Ala Gln  
     405                  410                  415  
 Gly Arg Leu Val Val Asn Ala Ala Tyr Thr Phe Asp Glu Thr Leu Leu  
     420                  425                  430  
 Lys Lys Tyr Ile Arg Leu Asn Gln Glu Leu Ser Leu Glu Glu Ile Ser  
     435                  440                  445  
 Pro Ala Arg Leu Leu Glu Glu Phe Ala Glu Val Glu Gly Asn Lys Glu  
     450                  455                  460  
 His Arg Ser Phe Glu Thr Lys Ala Ser Glu Leu Leu Lys Arg Phe Gly  
     465                  470                  475                  480  
 Cys Ile Cys Arg Leu Lys His Phe Thr Pro Val Asp Thr Pro Val Ile  
     485                  490                  495  
 Phe Val Ala Glu Glu Lys Glu Asn Ser Lys Val Ala Asn Asn Pro  
     500                  505                  510  
 Leu Ala Ala Val Leu Gly Ser Val Asn Ala Lys Lys Arg Leu Pro Pro  
     515                  520                  525  
 Thr Leu Thr Phe Asn Ala Asp Asn Glu Met Val Gln Thr Leu Leu Arg  
     530                  535                  540  
 Ile Gln Gly Asp Asn Lys Leu Phe Gln His Val Val His Ile Leu Tyr  
     545                  550                  555                  560  
 Val Gln Ser Leu Leu Gln Gly Lys Tyr Pro Val Asn Ser Glu Glu Met  
     565                  570                  575  
 Glu Leu Phe Asn His Ser Leu Ser Glu Leu Met Thr Ala Lys Met Asn  
     580                  585                  590  
 Asp Phe Ile Asn Phe Leu Asn  
     595

&lt;210&gt; 6952

&lt;211&gt; 209

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6952

Ile Thr Met Glu Phe Lys Ser Leu Lys Asn Ile Glu Ser Ser Phe Arg  
     1                  5                  10                  15  
 Gln Ile Arg Leu Phe Gly Ile Val Phe Leu Ser Leu Cys Ala Val Ile  
     20                  25                  30  
 Thr Val Trp Ser Val Trp Ser Ser Tyr Arg Phe Ala Glu Arg Gln Arg  
     35                  40                  45  
 Glu Lys Ile Tyr Val Leu Asp Asn Gly Lys Ser Leu Met Leu Ala Leu  
     50                  55                  60

Ser Gln Asp Leu Ser Gln Asn Arg Pro Ala Glu Ala Arg Glu His Val  
 65 70 75 80  
 Arg Arg Phe His Glu Leu Phe Phe Thr Leu Ser Pro Glu Lys Ser Ala  
 85 90 95  
 Ile Glu His Asn Val Lys Arg Ala Leu Leu Leu Ala Asp Lys Ser Val  
 100 105 110  
 Tyr Asn Tyr Tyr Ser Asp Phe Ala Glu Lys Gly Tyr Tyr Asn Arg Ile  
 115 120 125  
 Ile Ala Gly Asn Ile Asn Gln Val Leu Lys Val Asp Ser Val Val Cys  
 130 135 140  
 Asp Phe Asn Gly Tyr Pro Tyr Arg Ala Val Thr Tyr Ala Thr Gln Lys  
 145 150 155 160  
 Ile Ile Arg Gln Ser Asn Val Thr Glu Arg Ser Leu Val Thr Thr Cys  
 165 170 175  
 Arg Leu Leu Asn Ser Ser Arg Ser Asp Asp Asn Pro Asn Gly Phe Thr  
 180 185 190  
 Ile Glu Gly Phe Thr Ile Ile Glu Asn Lys Asp Leu Gln Thr Ile Lys  
 195 200 205  
 Arg

<210> 6953  
 <211> 612  
 <212> PRT  
 <213> B.fragilis

<400> 6953  
 Val Met Lys Glu Phe Phe Gln Leu Met Lys Arg Phe Val Pro Pro Tyr  
 1 5 10 15  
 Lys Lys Tyr Val Ile Trp Ala Leu Val Leu Asn Leu Leu Ser Ala Ile  
 20 25 30  
 Leu Asn Ile Phe Ser Phe Ser Leu Ile Ala Pro Ile Leu Gln Ile Leu  
 35 40 45  
 Phe Lys Val Asp Lys Asp Val Tyr Glu Phe Ile Pro Trp Asp Thr Val  
 50 55 60  
 Thr Ile Ser Thr Lys Asp Leu Leu Ile Asn Asn Phe Tyr Tyr Tyr Val  
 65 70 75 80  
 Ser Ala Met Ile Gln Ala Asn Gly Ala Ser Phe Thr Leu Met Ile Leu  
 85 90 95  
 Gly Leu Phe Leu Val Val Met Thr Phe Phe Lys Thr Phe Cys Tyr Phe  
 100 105 110  
 Ala Ser Ser Ala Val Met Ile Pro Leu Arg Thr Gly Val Val Arg Asp  
 115 120 125  
 Ile Arg Val Met Val Tyr Asp Lys Val Leu Arg Leu Pro Leu Gly Phe  
 130 135 140  
 Phe Ser Glu Glu Arg Lys Gly Asp Ile Ile Ala Arg Met Ser Gly Asp  
 145 150 155 160  
 Val Gly Glu Ile Glu Asn Ser Val Thr Ser Ser Leu Asp Met Leu Val  
 165 170 175  
 Lys Asn Pro Ile Leu Ile Ile Ala Tyr Phe Thr Thr Leu Leu Val Ile  
 180 185 190  
 Ser Trp Gln Leu Thr Leu Phe Thr Leu Leu Val Val Pro Leu Met Gly  
 195 200 205  
 Trp Val Met Gly Thr Val Gly Lys Lys Leu Lys Arg Gln Ser Leu Glu  
 210 215 220  
 Ala Gln Ala Lys Trp Ser Asp Thr Met Ser Gln Leu Glu Glu Thr Leu  
 225 230 235 240  
 Gly Gly Leu Arg Ile Ile Lys Ala Phe Ile Ala Glu Asn Lys Met Ile  
 245 250 255

Asn Arg Phe Leu Lys Cys Ser Asn Glu Phe Arg Asp Ala Thr Asn Lys  
 260 265 270  
 Val Ala Thr Arg Gln Ala Leu Ala His Pro Met Ser Glu Phe Leu Gly  
 275 280 285  
 Thr Thr Met Ile Val Ile Val Leu Trp Phe Gly Gly Ser Leu Ile Leu  
 290 295 300  
 Ser Ser His Ser Ser Ile Asp Ala Ser Thr Phe Met Val Tyr Leu Thr  
 305 310 315 320  
 Ile Leu Tyr Ser Val Ile Asn Pro Leu Lys Glu Phe Ser Lys Ala Gly  
 325 330 335  
 Tyr Asn Ile Pro Lys Gly Leu Ala Ser Met Glu Arg Val Asp Lys Ile  
 340 345 350  
 Leu Lys Ala Glu Asn Lys Ile Val Glu Ile Pro Asn Pro Lys Pro Leu  
 355 360 365  
 Asn Gly Leu Glu Glu Gln Val Glu Phe Lys Asp Ile Ser Phe Ser Tyr  
 370 375 380  
 Asp Gly Lys Lys Glu Val Leu Gln His Ile Asn Leu Thr Val Pro Lys  
 385 390 395 400  
 Gly Lys Thr Ile Ala Leu Val Gly Gln Ser Gly Ser Gly Lys Ser Thr  
 405 410 415  
 Leu Val Asp Leu Leu Pro Arg Tyr His Asp Val Gln Glu Gly Thr Ile  
 420 425 430  
 Thr Ile Asp Gly Val Asn Ile Lys Asp Val Arg Ile Ser Asp Leu Arg  
 435 440 445  
 Ser Leu Ile Gly Asn Val Asn Gln Glu Ala Ile Leu Phe Asn Asp Thr  
 450 455 460  
 Phe Phe Asn Asn Ile Ala Phe Gly Val Glu Asn Ala Thr Met Glu Gln  
 465 470 475 480  
 Val Ile Glu Ala Ala Lys Ile Ala Asn Ala His Asp Phe Ile Met Glu  
 485 490 495  
 Lys Glu Asp Gly Tyr His Thr Asn Ile Gly Asp Arg Gly Ser Lys Leu  
 500 505 510  
 Ser Gly Gly Gln Arg Gln Arg Ile Ser Ile Ala Arg Ala Ile Leu Lys  
 515 520 525  
 Asn Pro Pro Ile Leu Ile Leu Asp Glu Ala Thr Ser Ala Leu Asp Thr  
 530 535 540  
 Glu Ser Glu Arg Leu Val Gln Glu Ala Leu Glu Arg Leu Met Lys Thr  
 545 550 555 560  
 Arg Thr Thr Ile Ala Ile Ala His Arg Leu Ser Thr Ile Lys Asn Ala  
 565 570 575  
 Asp Glu Ile Cys Val Leu Tyr Glu Gly Glu Ile Val Glu Arg Gly Lys  
 580 585 590  
 His Glu Glu Leu Leu Ala Lys Asn Gly Tyr Tyr Lys Arg Leu Asn Asp  
 595 600 605  
 Met Gln Ser Leu  
 610

&lt;210&gt; 6954

&lt;211&gt; 135

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6954

Ile Leu Arg Asp Phe Arg Arg Leu Asn Arg Phe Met Asn Leu Phe His  
 1 5 10 15  
 Ser Arg Ile Ser Thr Lys Ser Ile Gln Ser Tyr Leu Asn Phe Arg Asn  
 20 25 30  
 Tyr Leu Gly Phe Cys Gly Asp Ser Ile Tyr Val Gln Met Ile Ala Phe  
 35 40 45

Leu Arg Tyr Leu Gly Tyr Ile Gln Gln Arg Lys Leu Arg Leu Ser Pro  
   50               55               60  
 Phe Glu Gln His Gly Met Ala Phe Thr Leu Val Val Ala Glu Ser Asp  
   65               70               75               80  
 Ile Leu Pro Ile Asn Val Pro Val Thr Arg Leu Gln Phe Pro Asp Gln  
   85               90               95  
 Arg Ala Phe Gly Tyr Phe Pro Val Pro Gln Gln Thr Val Trp Thr Asp  
   100              105              110  
 Ile Val Gly Glu Arg Gly Lys Glu Gln Thr Ile Phe Pro Glu Leu Pro  
   115              120              125  
 Glu His Cys Ala Glu Leu Ser  
   130              135

&lt;210&gt; 6955

&lt;211&gt; 119

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6955

Phe Tyr Lys Leu Ser Gln Leu Asn Glu Ser Met Lys Tyr Thr Leu Glu  
   1               5               10               15  
 Ile Gln Lys Leu Leu Leu Gln Ala Gln Asn Asp Asn Leu His Pro Arg  
   20              25              30  
 Glu Lys Ala Asn Leu Leu Arg Glu Ala Ile Arg Ile Ala Asp Glu Asn  
   35              40              45  
 Glu Asp Val Gln Trp Ala Val Glu Met Arg Leu Asp Leu Ile Tyr Glu  
   50              55              60  
 Leu Asn Leu Leu Ser Ala Asp Ala Glu Glu Ile Ala Val Phe Ser Lys  
   65              70              75              80  
 Ile Leu Asp Ser Tyr Glu Asn His Lys Asp Gln Ile Asn Glu Asp Asp  
   85              90              95  
 Ile Leu Trp Lys Tyr Lys Trp Ile Trp Ser Cys Thr Phe Asp Leu Pro  
   100             105             110  
 Ser Ile Pro Met Glu Gln Val  
   115

&lt;210&gt; 6956

&lt;211&gt; 474

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6956

Arg Val Val Cys His Val Asp Gly Glu Tyr Leu Arg Leu Leu Phe Leu  
   1               5               10               15  
 Arg Lys Pro Gln Gln Gly Leu Tyr Gly Ile Lys Leu Val His Val Leu  
   20              25              30  
 Pro Leu Val Lys Glu Tyr Leu Ala Val Gly Val Ile Asp Asp Ala Leu  
   35              40              45  
 Leu Asp His Gly Arg Gly Asn Asp Val Val His Leu Leu Arg His His  
   50              55              60  
 Asp Cys Leu Pro Val Ile Leu Ala His Gly Phe Val His Ile Ala Gln  
   65              70              75              80  
 Val Leu Ser His Val Arg Arg Glu Ser Leu Pro Ser Leu Phe His  
   85              90              95  
 Tyr Gln Leu Phe Pro Tyr Ala Phe Gln Ser Ala His Leu Val Asp Glu  
   100             105             110  
 Gly Phe His Asp Asn Asp Gly His Asp Arg Glu Lys Leu Ala Ile Phe  
   115             120             125  
 Leu Tyr Arg Ile Asn Leu Glu Asp Asp Glu Pro Leu Ala Glu Gln Val

130	135	140
Asp Val Leu Arg Gly Val Glu Gln Glu Val Val Ala Ser Ala Pro Val		
145	150	155
Ile Leu Pro His Gly Gly Glu His Ile Val Asp Val Glu Ile Gly Leu		160
165	170	175
Leu His Leu Tyr Leu Thr Phe Arg Gln Phe Ala Ala Val Val Val Ala		
180	185	190
His Ile Leu Ile Glu Gly Val Glu Arg Gly Asp Asp Ala Pro Val Ser		
195	200	205
Pro Asp Thr Leu Asp Val Cys Val His Arg Thr Ala Gln Phe Ala Ala		
210	215	220
Leu Arg Phe Arg Asn Phe Val Val Leu Arg Leu Pro Glu Cys Gln Gln		
225	230	235
Gln Arg Leu Asp Ala Val Leu Phe Leu His Val Glu His Val Ile Ile		240
245	250	255
Gly Val Lys Arg Ile Glu Arg Asn Arg Phe Leu Leu Arg Val Gly Glu		
260	265	270
Val His Ala Val Arg Pro Val Cys Leu Ala Pro Asp His Leu Ala Gln		
275	280	285
Ala Leu Ile Gly Val Ser Arg Ile His Gln Tyr His Val Arg Thr Leu		
290	295	300
Leu Val Val Leu Pro His Glu Val Val His Lys Glu Gly Phe Ala Ala		
305	310	315
Ala Arg Arg Thr Gln His Glu Leu Val Ala Val Gly Arg Asp Ala Pro		320
325	330	335
Leu His Arg Gln Val Ala Asp Val Glu Val Gln Arg Phe Ser Arg Lys		
340	345	350
Pro Val His His Leu Asp Thr Glu Gly Arg Glu Arg Thr Ala Val Val		
355	360	365
Gly Phe Leu Arg Glu Lys Ala His Arg Leu Leu Asp Glu Gly Met Glu		
370	375	380
Thr Leu Phe Arg Arg Glu Val Arg Arg Val Ala Gly His Arg Arg Pro		
385	390	395
Val Glu Arg Arg Ala Val Asp Gly Val Val Ala Arg His Ala Leu His		400
405	410	415
Ala Cys Gln Leu Ala Ala Tyr Ile Val Leu Tyr Met Leu Gln Phe Leu		
420	425	430
Arg Val Ile Ala Pro Arg His Asp Val Glu Val Arg Pro Tyr Arg Gly		
435	440	445
Gln Pro Val Gly Met Gly Phe Val Gln Val Leu Val Tyr Pro Phe Ala		
450	455	460
Val Asp Ala Val Ala Pro Ala Val Ser Gly		
465	470	

&lt;210&gt; 6957

&lt;211&gt; 117

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6957

Arg Met Glu Leu Leu Thr Arg Asn Asn Phe Glu Ser Trp Met Gln Lys		
1	5	10
Leu Met Glu Arg Leu Asp Arg Gln Asp Glu Leu Leu Leu Ser Leu Gln		15
20	25	30
Pro Ser Gly Lys Ala Pro Asn Pro Ile Glu Arg Ile Arg Met Phe Asp		
35	40	45
Asn Gln Asp Leu Cys Met Leu Leu Gln Ile Ser Lys Arg Thr Leu Gln		
50	55	60
Arg Tyr Arg Ser Ile Gly Ala Leu Pro Tyr Lys Thr Leu Gly Lys Lys		

65	70	75	80
Thr Tyr Tyr Ser Glu Glu Asp Val Leu Thr Phe Leu Ser Gly His Val			
85	90	95	
Lys Asp Phe Lys Lys Glu Asp Ile Ala Phe Tyr Lys Ala Arg Ile His			
100	105	110	
Asn Phe Phe Gln Lys			
115			

&lt;210&gt; 6958

&lt;211&gt; 409

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6958

Asp Trp Ser Cys Lys Asn Arg His Phe Ile Val Cys Phe Leu Tyr Lys			
1	5	10	15
Ile Arg Gln Leu Lys Lys Tyr Asp Tyr Leu Cys Thr Ile Ile Tyr Gln			
20	25	30	
Gly Met Glu Thr Val Asn Arg Ile Leu Gln Glu Lys Ile Thr Ala Arg			
35	40	45	
Ile Ala Pro Asn Lys Ala Val Leu Ile Phe Gly Ala Arg Arg Val Gly			
50	55	60	
Lys Thr Val Met Met Arg Lys Ile Val Asp Asn Tyr Ser Gly Arg Thr			
65	70	75	80
Met Met Leu Asn Gly Glu Asp Tyr Asp Thr Leu Ala Leu Leu Glu Asn			
85	90	95	
Arg Ser Ile Ala Asn Tyr Arg His Leu Leu Asp Gly Ile Asp Leu Leu			
100	105	110	
Ala Ile Asp Glu Ala Gln Asn Ile Pro Gln Ile Gly Ser Ile Leu Lys			
115	120	125	
Leu Ile Val Asp Glu Ile Pro Gly Ile Ser Val Leu Ala Ser Gly Ser			
130	135	140	
Ser Ser Phe Asp Leu Leu Asn Lys Thr Gly Glu Pro Leu Val Gly Arg			
145	150	155	160
Ser Thr Gln Phe Leu Leu Thr Pro Phe Ser Gln Arg Glu Ile Ala Gln			
165	170	175	
Ile Glu Thr Pro Phe Glu Thr Arg Gln Asn Leu Glu Ala Arg Leu Ile			
180	185	190	
Tyr Gly Ser Tyr Pro Glu Val Val Met Met Glu Asn Tyr Glu Arg Lys			
195	200	205	
Thr Asp Tyr Leu Arg Asp Ile Val Gly Ala Tyr Leu Leu Lys Asp Ile			
210	215	220	
Leu Ala Ile Asp Gly Leu Lys Asn Ser Ser Lys Met Arg Asp Leu Leu			
225	230	235	240
Arg Leu Ile Ala Phe Gln Leu Gly Ser Glu Val Ser Tyr Asp Glu Leu			
245	250	255	
Gly Lys Gln Leu Gly Met Ser Lys Thr Thr Val Glu Lys Tyr Leu Asp			
260	265	270	
Leu Leu Glu Lys Val Phe Val Ile Tyr Arg Leu Gly Ala Tyr Ser Arg			
275	280	285	
Asn Leu Arg Lys Glu Val Thr Lys Ala Gly Lys Trp Tyr Phe Tyr Asp			
290	295	300	
Asn Gly Ile Arg Asn Ala Ile Ile Gly Ala Phe Ser Pro Leu Ala Ile			
305	310	315	320
Arg Gln Asp Val Gly Ala Leu Trp Glu Asn Tyr Ile Ile Gly Glu Arg			
325	330	335	
Arg Lys Ala Asn Phe Asn Glu Gly Leu His Lys Glu Phe Tyr Phe Trp			
340	345	350	
Arg Thr Tyr Asp Lys Gln Glu Ile Asp Leu Ile Glu Glu Cys Ala Asp			

355	360	365
Ser Leu Thr Ala Leu Glu Phe Lys Trp Gly Asn Lys Met Pro Asn Ala		
370	375	380
Pro Lys Val Phe Gln Glu Ala Tyr Pro His Ala Glu Phe His Val Val		
385	390	395
Asn Arg Glu Asn Tyr Leu Glu Phe Val		
	405	

&lt;210&gt; 6959

&lt;211&gt; 296

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6959

Leu Thr His Cys Met Glu Arg Thr Glu Ile Asp Ala Met Arg Gln Ile			
1	5	10	15
Pro Leu Ala Asp Phe Leu Ala Arg Leu Gly His Glu Pro Val Arg Arg			
20	25	30	
Ser Gly Asn Glu Leu Trp Tyr Arg Ala Pro Tyr Arg Asn Glu Arg Thr			
35	40	45	
Pro Ser Phe Arg Val Asn Val Ala Lys Gln Leu Trp Tyr Asp Phe Gly			
50	55	60	
Thr Gly Lys Gly Gly Asp Ile Phe Thr Leu Ala Gly Glu Phe Ile Gly			
65	70	75	80
Ser Asn Asp Phe Met Glu Gln Val Lys Phe Ile Ala Glu Thr Ala Asn			
85	90	95	
Met Pro Met Pro Val Pro Glu Val Ser Lys Pro Thr Phe Leu Pro Lys			
100	105	110	
Pro Ser Glu Pro Ala Phe Glu Gly Val Glu Ala Val Pro Leu Leu Arg			
115	120	125	
Ser Pro Leu Thr Asp Tyr Leu Ala Glu Arg Gly Ile Ser Tyr Asp Ile			
130	135	140	
Ala Ser Arg Tyr Cys Cys Arg Leu Asn Tyr Gly Val Arg Gly Lys Arg			
145	150	155	160
Tyr Phe Ala Val Gly Phe Pro Asn Val Thr Gly Gly Tyr Glu Ile Arg			
165	170	175	
Ser Arg Phe Phe Lys Gly Cys Val Pro Pro Lys Asp Val Ser Leu Val			
180	185	190	
Lys Ala Glu Gly Ser Pro Ala Asp Val Cys Ser Val Phe Glu Gly Phe			
195	200	205	
Met Asp Phe Leu Ser Ala Ala Thr Leu Gly Leu Glu Lys Gly Asp Cys			
210	215	220	
Leu Val Leu Asn Ser Val Ala Asn Val Glu Lys Ala Met Lys His Leu			
225	230	235	240
Asp Gly Tyr Gly Cys Ile Asp Cys Tyr Leu Asp His Asp Glu Ala Gly			
245	250	255	
Arg Arg Thr Leu Lys Thr Leu Lys Gly His Tyr Gly Glu Arg Ile Tyr			
260	265	270	
Asp Arg Ser Ala Leu Tyr Asp Gly Cys Lys Asp Leu Asn Glu Tyr Leu			
275	280	285	
Gln Leu Thr Thr Gln Lys Glu Gln			
290	295		

&lt;210&gt; 6960

&lt;211&gt; 177

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6960

Arg Cys Pro Arg Glu His Ile Ser Phe Pro Ala Glu Arg Leu Tyr Val  
 1 5 10 15  
 Ala Pro Ser Val Arg Val Thr Glu Pro Phe Pro Ile Lys Ile Leu Arg  
 20 25 30  
 Glu Thr Arg Ser Glu Leu Leu Arg Pro Leu Leu Phe Ile Ala Glu Phe  
 35 40 45  
 Cys Arg Arg Asn Gln Lys Lys Gly Leu Asn Met Lys Val Ile Thr Met  
 50 55 60  
 Glu Ser Ser Ala Phe Thr Val Leu Thr Glu Gln Ile Ala Glu Ile Ala  
 65 70 75 80  
 Ala His Val Arg Ala Val Ser Gly Glu Arg Lys Glu Lys Phe Ala Asp  
 85 90 95  
 Arg Leu Leu Asn Thr Arg Glu Ala Ala His Leu Leu Asn Val Ser Thr  
 100 105 110  
 Arg Thr Leu Gln Arg Met Arg Ser Glu His Arg Ile Gly Tyr Val Val  
 115 120 125  
 Leu Arg Gly Lys Cys Arg Tyr Arg Gln Ser Glu Ile Asp Arg Leu Leu  
 130 135 140  
 Ala Asp Cys Thr Ile Val Glu Asp Ala Ala Thr Pro Thr Glu Leu Lys  
 145 150 155 160  
 Arg Asn His Thr Leu Arg Thr Gly Gly Ser Lys Pro Lys Gly Arg Arg  
 165 170 175  
 Thr

<210> 6961  
 <211> 266  
 <212> PRT  
 <213> B.fragilis

<400> 6961

Arg Cys His Arg Pro Cys Pro Phe Arg Ser Arg Thr Lys Ala Val Leu  
 1 5 10 15  
 Pro Arg Ser His Gly Lys Arg Ala Cys Ala His Cys Gly Met Ala His  
 20 25 30  
 Asp Thr Thr Thr Arg Cys Arg Phe Phe Gly Gln Ala His Val Leu Thr  
 35 40 45  
 Val Arg Gly Ser Pro Gln Gly Val Ser Ala Ser Trp Arg Arg Phe Pro  
 50 55 60  
 Ser Val Pro Cys Ser Ala Leu Val Asn Asp Lys Leu Asp Ala His Ala  
 65 70 75 80  
 Pro Leu Arg Met Lys Leu Pro Arg Val Ala Thr Pro Gln Ala Thr Leu  
 85 90 95  
 Pro Glu Ile Gly Lys Gln Gly Asp Thr Val Ser His Val Lys Leu His  
 100 105 110  
 Ile Glu Arg Gln Arg Thr Ala Val Asp Glu Gly Ile Pro Val Met Glu  
 115 120 125  
 His Gly Ala Val Met Gln Tyr Leu Phe Ala Pro Val His Arg Phe Ile  
 130 135 140  
 Ser Gly Lys Ser Arg Ser Thr Cys Ile Asp Glu Tyr Asp Phe Thr Gly  
 145 150 155 160  
 Ile Gly Glu Tyr Leu Glu Val Val Ser Ala Leu Arg Arg Glu Leu Arg  
 165 170 175  
 His Gly Tyr Leu Pro Val Leu Val Arg Val Val Leu Gln Gln Val Phe  
 180 185 190  
 Ala Ala Lys His Pro Phe Val Pro Leu Phe Arg Val Gly Gly Lys Ser  
 195 200 205  
 Arg Pro Glu Thr Val Pro Ala Val Val Ala Ala Gly Ile Glu Ala Val  
 210 215 220

Arg His Val Arg Pro Asp Leu Asp Ala Leu His Leu Arg Gln Ala Ser  
 225                   230                   235                   240  
 Leu Gly Val Arg Leu Pro Arg Thr Gln Gly Lys Arg Arg Asp Asp Tyr  
 245                   250                   255  
 Cys Asp Val Leu Ser His Gly Gln Arg Thr  
 260                   265

&lt;210&gt; 6962

&lt;211&gt; 68

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6962

Arg Pro Cys Arg Ile Phe Cys Phe Leu Val Ala Ile Phe Ala Asn Thr  
 1                   5                   10                   15  
 Ile His Val Arg Ile Pro Lys Thr Glu Cys Lys Ile Ser Lys Leu Thr  
 20                   25                   30  
 Gly His Glu Leu Phe Phe Ile Gly Gly Asn Arg Phe Leu Pro Pro Asp  
 35                   40                   45  
 Lys Arg Ser Arg Gly Leu Gln Tyr Gly Lys Ser Ile His Gly Phe Arg  
 50                   55                   60

His Pro Ser Asp

65

&lt;210&gt; 6963

&lt;211&gt; 807

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6963

Phe Arg Arg Arg Leu Phe Leu Phe Pro Phe Leu Arg Arg Glu Phe  
 1                   5                   10                   15  
 His His Phe Ala Val Ala Thr Val Ser Gly Asn Met Glu Leu Pro Glu  
 20                   25                   30  
 Arg Phe His Arg Glu Ala Ala Val Leu Pro Ile Ala Tyr Ala His His  
 35                   40                   45  
 Arg Gln Arg Gly Arg Leu His Pro Ser Asp Gly Ile Cys Ala Val Ser  
 50                   55                   60  
 Gly Ser Asp Gly Glu Cys Leu Arg Ala Val Asp Ala His Lys Pro Val  
 65                   70                   75                   80  
 Gly Phe Ala Pro Cys Phe Gly Ser Lys Ile Glu Val Val Ile Leu Ala  
 85                   90                   95  
 Ser Arg Phe Lys Val Ala Gln Ser Leu Ala Asp Ser Leu Val Gly Glu  
 100                  105                  110  
 Arg Ala Tyr Pro Gln Ala Tyr Glu Arg Arg Ser Thr Ser Asp Ile Met  
 115                  120                  125  
 Val Glu Val Ser Glu Asp Lys Leu Thr Phe Ala Ser Cys Ile Gly Arg  
 130                  135                  140  
 His Asp Asp Leu Leu Ala Phe Leu Glu Lys Thr Gly Asp Asp Phe Tyr  
 145                  150                  155                  160  
 Leu Arg His His Ala Ala Val Gly Phe Val Thr Leu Leu Arg Phe Phe  
 165                  170                  175  
 Leu Thr Gly Asn Glu Arg Glu Gly Phe Gly Asp Asp Gly Gln Val Val  
 180                  185                  190  
 Thr Asp Glu Ala Ala Tyr Ala Val Ala Val Gly His Ser Lys Leu Asp  
 195                  200                  205  
 Lys Val Ser Glu Cys Pro Cys His Gly Thr Val Ala Ser Leu Glu Ile  
 210                  215                  220  
 Ser Phe Leu Ser Leu Cys Arg Ala His Asp Ala Gly Asp Leu Thr Cys

225	230	235	240												
His	Gly	Trp	Leu	Phe	Cys	Asn	Asp	Cys	Leu	His	Ala	Asp	Tyr	Phe	Phe
245	250	255													
Met	Asn	Cys	Tyr	Phe	Gly	Phe	Ser	Gly	Gly	His	Gly	Met	Leu	His	Leu
260	265	270													
His	Ala	Leu	Asp	Asp	Phe	Leu	Leu	Arg	Leu	Leu	Gln	Leu	Leu	Leu	
275	280	285													
Phe	Val	Val	Phe	Arg	Ser	Gly	Leu	Pro	Phe	Leu	Gln	Arg	Leu	Phe	Gln
290	295	300													
Val	Leu	Gly	Arg	Leu	Val	Gly	Leu	Ser	Phe	Ala	Val	His	Arg	His	Leu
305	310	315	320												
Cys	Ala	Ala	Leu	Val	Gly	Arg	Gly	Asp	Leu	Leu	Arg	Val	Val	Gly	Val
325	330	335													
Gly	Val	Val	Ala	Val	Arg	Thr	Ser	Leu	Leu	Arg	Val	Glu	Leu	Asp	Val
340	345	350													
His	Arg	Gly	Val	Glu	Thr	Leu	Leu	Val	Gly	His	Val	Leu	Gln	Phe	Asp
355	360	365													
Ser	Phe	Ala	Cys	Arg	Val	Ile	Gly	Phe	Leu	Leu	Val	Gly	Glu	Val	His
370	375	380													
Ala	Ala	Pro	Phe	Thr	Asp	Gly	Ala	Asp	Ala	Ala	Val	Gly	Val	Arg	Pro
385	390	395	400												
Arg	Val	Ala	Ala	Leu	Leu	Phe	Leu	Trp	Gly	Cys	Gly	Ile	Phe	His	Ala
405	410	415													
Leu	Ser	Leu	Ser	Leu	Arg	Gly	Ile	Val	Leu	Gly	Phe	Leu	Arg	Leu	Gly
420	425	430													
Gly	Thr	Arg	Arg	Pro	Ala	Gly	Ser	Arg	Tyr	Glu	Leu	His	Ala	Ser	Leu
435	440	445													
Leu	Asp	Val	His	Leu	Lys	Cys	Gly	Asp	Glu	Leu	Pro	Ala	Val	Val	Ala
450	455	460													
Phe	Asp	Glu	Leu	Val	Ala	His	Gly	Gln	Pro	Gly	Thr	Gln	His	Ile	Leu
465	470	475	480												
Leu	Leu	Leu	Gly	Asp	Phe	Arg	Leu	Ser	Asp	Ala	Ile	Arg	Tyr	Ala	His
485	490	495													
Leu	Val	Cys	Arg	Asn	Val	Arg	Asp	Phe	Ile	Arg	Leu	Ala	Val	Tyr	Ala
500	505	510													
Asp	Glu	Arg	Gly	Asp	Asp	Phe	Thr	Arg	Phe	Pro	Val	His	Asp	Val	His
515	520	525													
Asp	Pro	Ala	Glu	Val	Ala	Arg	Phe	Ala	Gln	Val	Leu	Thr	Val	Phe	Val
530	535	540													
Arg	Lys	Leu	Val	Phe	Leu	Val	Phe	Ile	Glu	Phe	Leu	Leu	Leu	Ala	Asp
545	550	555	560												
Glu	Val	Arg	His	Glu	Ala	Asp	Ile	Ala	Phe	Thr	Val	Leu	Glu	Gly	
565	570	575													
Lys	Ala	Gly	Ile	Gln	Phe	Lys	Ser	Leu	Ala	Ala	Glu	Leu	Gly	Arg	His
580	585	590													
Phe	His	Gln	Ile	Gly	Leu	Ala	Val	Val	Glu	His	Leu	Leu	Lys	Val	Thr
595	600	605													
Gly	Leu	Phe	Lys	Val	Val	Met	Phe	His	Ala	Pro	Phe	Leu	Phe	Gln	Leu
610	615	620													
Leu	Pro	Val	Asp	Phe	Ala	Leu	Val	Asp	Gly	Leu	Val	Ala	Leu	Ser	Ala
625	630	635	640												
Leu	Arg	Leu	Leu	Arg	Ala	Phe	Leu	Leu	Phe	His	Phe	Phe	Leu	Phe	
645	650	655													
Leu	Val	Phe	Phe	Gly	Leu	Leu	Phe	Leu	Leu	Phe	Arg	Leu	Leu	Arg	
660	665	670													
Leu	Ser	Gly	Gly	Leu	Phe	Phe	Leu	His	Leu	Leu	Phe	Val	Ala	Gly	Ser
675	680	685													
Val	His	Leu	Val	Gly	Arg	Lys	Gln	Phe	Leu	Val	Gly	Phe	Gly	Val	Phe
690	695	700													

Gln Gln Val Phe His His Leu His Gln Phe Val Gly Leu Val Cys Cys  
 705 710 715 720  
 Asp Thr Val Glu Thr Glu Ala Ala Gly Phe Leu Ala Leu Pro Glu Glu  
 725 730 735  
 Val Phe Glu Glu Val Val Gln His Ile Ala Val Ala Val Glu Leu Gln  
 740 745 750  
 Glu Thr Leu Arg Val Leu Arg Phe Arg Gly Gly Thr Leu Gly Gly Thr  
 755 760 765  
 Val Gly Ile Gln Pro Gly Tyr His Ala Asp Phe Ala Arg Leu Leu Val  
 770 775 780  
 Thr Asp Tyr Gln His Val Leu Phe Ala Phe Phe Leu Cys His Leu Lys  
 785 790 795 800  
 Asn Val Leu Met Gly Tyr Phe  
 805

&lt;210&gt; 6964

&lt;211&gt; 74

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6964

Ser Lys Ile Ser Phe Leu Thr Ser Arg Met Asp Ser Ser Gly Glu Ser  
 1 5 10 15  
 Arg Asp Thr Ser Phe Phe Val Asn Tyr Lys Arg Gly Leu Thr Leu Pro  
 20 25 30  
 Lys Thr Glu Leu Asp Ser Met Ser Lys Arg Lys Leu Thr Thr Lys Phe  
 35 40 45  
 Glu Glu Glu Pro Gln Lys Ile Ile Ser Ile Phe His Leu Thr Pro Ser  
 50 55 60  
 Val Phe Gln Ala Ile Leu Arg Ile Pro Tyr  
 65 70

&lt;210&gt; 6965

&lt;211&gt; 653

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6965

Ala Arg Asn Arg Leu Asp Arg Arg Val Cys Arg Gln Phe Asp Gly Phe  
 1 5 10 15  
 Gly Val Gln Met Gly Lys Gln Asp Ala Gln Cys Ser Glu Ser Val Ser  
 20 25 30  
 Arg Ser Ile Ser Pro Cys Arg Val Pro Cys Cys Lys Gln Gly Glu Leu  
 35 40 45  
 Phe Gly Val Cys Ile Lys Thr Lys Lys Tyr Arg Asn Met Tyr Leu Ser  
 50 55 60  
 Ser Leu His Ile Arg Gln Phe Arg Val Phe Asp Asp Ile Thr Leu Tyr  
 65 70 75 80  
 Phe Lys Asn Gly Ile Asn Ile Leu Ile Gly Glu Asn Asn Ser Gly Lys  
 85 90 95  
 Thr Ala Ile Ile Asp Ala Leu Arg Ile Cys Leu Gly Cys Gly Lys Pro  
 100 105 110  
 Asp Asn Tyr Ile Tyr Ile Gln Glu Ser Asp Leu His Val Asn Ser Thr  
 115 120 125  
 Val Pro Thr Glu Asn Asn Thr Thr Ile Gln Phe Asp Leu Thr Phe Glu  
 130 135 140  
 Phe Gly Asp Ala Leu Ile Glu Arg Glu Cys Phe Tyr Asp Phe Ile Ser  
 145 150 155 160  
 Gln Asp Lys Glu Asp Pro Ala Lys Gln Thr Ile Gln Leu His Leu Lys

165	170	175
Phe Ile Gln Glu Asn Asn Gly Lys Lys	Tyr Phe Lys Arg Met Ile	
180	185	190
Trp Gly Gly Asp Asn Glu Gly Gln Gln	Val Pro Tyr Glu Ser Leu Gln	
195	200	205
Glu Ile Phe Tyr Thr Tyr Leu Ser Pro Leu Arg Asp Ala Val Ser Cys		
210	215	220
Leu Arg Pro Tyr Ser Tyr Asp Asn Lys Thr Ser Gln Leu Phe Asn Gln		
225	230	235
Leu Thr Lys Tyr Asn Lys Gly Glu Glu Ile Glu Leu Asn Glu Glu		
245	250	255
Arg Lys Asp Leu Leu Ala Lys Asn Leu Tyr His Val Phe Glu Asp Asp		
260	265	270
Ala Ser Asp Trp Lys His Ile Leu Thr Thr Gly Lys Ser Lys Val Asn		
275	280	285
Ala His Leu Glu Gly Thr Gly Ile Thr Arg Lys His Pro Asn Ile Glu		
290	295	300
Met Arg Tyr Val Gly Arg Lys Phe Ser Asp Val Val Arg Gly Val Glu		
305	310	315
Leu Lys Cys Pro Val Tyr Lys Thr Ile Glu Asp Gly Gln Glu Gln Lys		
325	330	335
Tyr Phe Glu Leu Tyr Gln Asn Gly Leu Gly Glu Asn Asn Leu Ile Phe		
340	345	350
Thr Ser Val Val Leu Gly Asp Leu Ile Asn Arg Cys Glu Asp Asn Ala		
355	360	365
Leu Glu Ile Tyr Asn Ala Leu Leu Val Glu Glu Pro Glu Ala His Leu		
370	375	380
His Pro Gln Tyr Gln Asn Thr Phe Phe Glu Tyr Leu Asn Glu Leu Gln		
385	390	395
Ser Lys Gly Leu Gln Val Phe Val Thr Ser His Ser Pro Thr Ile Thr		
405	410	415
Ala Lys Ser Asp Val Asn Asn Ile Ser Val Leu Gln Arg Lys Gln Asn		
420	425	430
Ile Val Gln Ser Phe Ser Phe Gly Lys Leu Thr Glu Ser Asp Tyr Pro		
435	440	445
Ala Glu Ser Lys Arg His Leu Arg Lys Phe Leu Asp Thr Thr Lys Ala		
450	455	460
Gln Leu Phe Phe Ala Asn Gly Val Leu Leu Val Glu Gly Val Ala Glu		
465	470	475
Ala Ile Ile Ile Pro Ile Leu Ala Lys Lys Phe Leu Ser Glu Lys Ile		
485	490	495
Asp Leu Cys Lys Ser Gly Ile Glu Leu Val Asn Ile Gly Gly Val Ala		
500	505	510
Phe Asn His Phe Gly Leu Leu Phe Asn Asn Asp Asp Glu Ser Lys Arg		
515	520	525
Leu Leu Ser Lys Cys Ala Ile Ile Thr Asp Ser Asp Pro Glu Glu Asp		
530	535	540
Lys Asp Lys Ser Asp Arg Ala Gln Lys Ala Lys Asp Leu Glu Gly Gln		
545	550	555
Asn Leu Lys Val Cys Leu Ala Pro His Thr Leu Glu Tyr Asp Leu Phe		
565	570	575
Glu Gln Ser Glu His Asn Lys Ser Ile Met Arg Asp Val Tyr Arg Lys		
580	585	590
Met His Ala Gln Thr Asn Asp Leu Arg Gly Asp Phe Asn Ala Ser Thr		
595	600	605
Leu Met Lys Lys Leu Lys Ser Asn Lys Asp Lys Ala Glu Phe Ala Leu		
610	615	620
Gln Leu Cys Asp Arg Leu Glu Thr Glu Val Ala Phe Asp Val Pro Asp		
625	630	635
		640

Tyr Ile Lys Asp Ala Ile Leu Phe Val Ala Pro Ser Glu  
645 650

<210> 6966  
<211> 180  
<212> PRT  
<213> B.fragilis

```

<400> 6966
Leu Phe Thr Ser Ser Ser Val Asn Leu Ile Glu Met Gln Glu Ile Ser
1 5 10 15
Phe Arg Asp Asp Ile Leu Pro Leu Lys Asp Lys Leu Phe Arg Leu Ala
20 25 30
Leu Arg Ile Thr Phe Asp Arg Ala Glu Ala Glu Asp Val Val Gln Asp
35 40 45
Thr Met Ile Arg Val Trp Asn Lys Arg Glu Glu Trp Thr Gln Phe Gly
50 55 60
Ser Ile Glu Ala Tyr Cys Leu Thr Val Ala Lys Asn Leu Ala Ile Asp
65 70 75 80
Arg Ser Gln Lys Lys Glu Ala Gln Asn Val Glu Leu Thr Pro Glu Met
85 90 95
Glu Glu Glu Ser Glu Ile Ser Gly Pro Tyr Asp Gln Leu Val Asn Asn
100 105 110
Glu Arg Met Ser Ile Ile His Arg Leu Ile Asn Glu Leu Pro Glu Lys
115 120 125
Gln Arg Leu Ile Met Gln Leu Arg Asp Ile Glu Gly Glu Ser Tyr Lys
130 135 140
Glu Ile Ala Lys Ile Leu Asn Leu Thr Glu Glu Gln Val Lys Val Asn
145 150 155 160
Leu Phe Arg Ala Arg Gln Lys Val Lys Gln Arg Tyr Leu Glu Ile Asp
165 170 175
Glu Tyr Gly Leu
180

```

<210> 6967  
<211> 99  
<212> PRT  
<213> B.fragilis

```

<400> 6967
Val Leu Val Arg Asn Val Phe Leu Ile Asp Arg Lys Asn Arg Leu Tyr
      5          10          15
Leu Leu Cys Val Thr Lys Thr Thr Glu Tyr Met Lys Lys Phe Leu Lys
      20         25         30
Ala Ile Gly Cys Phe Ala Ile Phe Val Leu Ala Val Phe Ser Tyr Phe
      35         40         45
Arg Glu Gln Pro Tyr Lys Leu Asp Ser Leu Ser Leu Gln Asn Val Glu
      50         55         60
Ala Leu Ala Glu Gly Glu Glu Tyr Thr His Ile Ser Cys Ile Gly Val
      65         70         75         80
Gly Ser Leu Asp Cys Pro Val Asn His Ser Gly Val Lys Tyr Ile Phe
      85         90         95
Lys Gly Tyr

```

<210> 6968  
<211> 198  
<212> PRT  
<213> B.*fragilis*

&lt;400&gt; 6968

Arg Thr Ser Ser Ala Leu Thr Met Arg Lys Tyr Ile Ala Ile Ile Ile  
 1               5               10               15  
 Ala Ser Leu Ala Leu Cys Thr Gly Gln Ala His Ala Gln Arg Cys Leu  
 20               25               30  
 Pro Lys Met Gln Gly Ile Glu Val Arg Ala Asn Met Ala Asp Gly Phe  
 35               40               45  
 Asn Pro Gly Gly Asn Asp Gly Gly Tyr Ser Phe Gly Ala Ala Leu Ser  
 50               55               60  
 Thr Tyr Thr Lys Lys Gly Asn Lys Trp Met Phe Gly Gly Glu Tyr Leu  
 65               70               75               80  
 Leu Lys Asn Asn Pro Tyr Lys Asp Gly Lys Ile Pro Val Ala Gln Phe  
 85               90               95  
 Thr Ala Glu Gly Gly Tyr Tyr Phe Lys Ile Leu Ser Asp Ala Arg Lys  
 100              105              110  
 Ile Val Phe Val Tyr Ala Gly Ala Ser Ala Leu Ala Gly Tyr Glu Ser  
 115              120              125  
 Val Asn Trp Gly Glu Lys Val Leu His Asp Gly Ser Met Leu His Asp  
 130              135              140  
 Arg Asp Ala Phe Ile Tyr Gly Ala Leu Thr Leu Asp Val Glu Phe  
 145              150              155              160  
 Tyr Val Ala Asp Arg Ile Ala Leu Leu Ala Asn Leu Arg Glu Arg Cys  
 165              170              175  
 Leu Trp Gly Gly Asp Thr Arg Lys Phe His Thr Gln Trp Gly Val Gly  
 180              185              190  
 Ile Lys Phe Ile Ile Asn  
 195

&lt;210&gt; 6969

<211> 272  
 <212> PRT  
 <213> B.fragilis

&lt;400&gt; 6969

Glu Ile Lys Ser Arg Lys Asp Trp Leu Tyr Gly Lys Tyr Cys Ile Asp  
 1               5               10               15  
 Leu Pro Gly Asn Ala His Tyr Asp Lys Phe Glu Leu Arg Gln Phe Ile  
 20               25               30  
 Phe Ile Met Lys Cys Ile His Ile Ile Thr Pro Val Lys Asp Ser Ile  
 35               40               45  
 Glu Leu Thr Leu Gln Thr Ala Glu Ala Ile Leu Lys Ser Asp Phe Thr  
 50               55               60  
 Val Pro Phe His Tyr Thr Ile Tyr Asn Asp Phe Ser Thr Asp Glu Asn  
 65               70               75               80  
 Thr Lys Gln Leu Lys Glu Ala Ser Leu Lys Met Gly Phe Glu Leu Val  
 85               90               95  
 Asn Leu Ser Glu Ile Thr Ser His Pro Ser Pro Asn Tyr Leu Leu Val  
 100              105              110  
 Leu Gln Met Ala Gln Glu Lys Ala Ile Ala Ala Glu Ala Gly Leu Leu  
 115              120              125  
 Ile Val Glu Ser Asp Val Ile Val Lys Lys His Thr Leu Gln Ser Leu  
 130              135              140  
 Phe Asp Gly Ala Gln Ala Arg Lys Asp Cys Gly Ile Ala Ala Ala Val  
 145              150              155              160  
 Thr Val Asp Glu His Glu Ala Ile Asn Tyr Pro Tyr Leu Tyr Ala Lys  
 165              170              175  
 Gly Lys Glu Asn Gln Val Phe Pro Glu Lys Lys His Leu Ser Phe Cys  
 180              185              190

Cys Ser Leu Leu Thr Thr Asp Phe Leu Arg Ala Phe Asp Phe His Ser  
                  195                 200                 205  
 Leu Asn Pro Glu Lys Asn Trp Phe Asp Val Thr Ile Ser His Gln Ala  
                  210                 215                 220  
 Leu Glu Lys Gly Phe Val Asn Tyr Leu Phe Thr Thr Leu Thr Val Trp  
                  225                 230                 235                 240  
 His Arg Pro His Ser Ser Arg Pro Trp Lys Gln Leu Lys Tyr Thr Asn  
                  245                 250                 255  
 Pro Leu Lys Tyr Tyr Trp Leu Lys Phe Thr Lys Gly Leu Asp Lys Ile  
                  260                 265                 270

<210> 6970

<211> 116

<212> PRT

<213> B.fragilis

<400> 6970

Ile	Arg	Lys	Arg	Ile	Arg	Lys	Thr	Gly	Ser	Pro	His	His	Asp	Gly	Gly
1				5				10					15		
Ser	Met	Leu	Ala	Gln	Val	Gln	Ala	Ser	Val	Glu	Ile	Leu	Ser	Pro	Val
					20			25					30		
Pro	Val	Ser	Gly	Lys	Cys	Gly	Glu	Lys	Asp	Tyr	Asp	Gly	Leu	Phe	Ile
					35			40				45			
Arg	Glu	Pro	Glu	Val	Lys	Ala	Arg	Glu	Gly	Lys	Met	Ala	Tyr	Val	Arg
					50			55			60				
Pro	Glu	Tyr	His	Asp	Arg	Ile	Met	Arg	Ile	Thr	Arg	Val	Ile	Gly	His
					65			70			75			80	
Asp	Arg	Leu	Ser	Leu	Ser	Ala	Tyr	Ile	Asp	His	Val	Leu	Thr	His	His
					85			90			95				
Phe	Asn	Gln	Cys	Glu	Glu	Ala	Ile	Lys	Ser	Leu	Tyr	Ala	Arg	Asn	Tyr
					100			105			110				
Asp	Ala	Val	Phe												
			115												

<210> 6971

<211> 627

<212> PRT

<213> B.fragilis

<400> 6971

Ala	Gly	Glu	Ser	Pro	Val	His	Gly	Glu	Gly	Lys	Gln	Leu	Ile	Ile	Leu
1					5			10					15		
Met	Gln	Ile	Thr	Glu	Asn	Val	Arg	Asp	Ile	Met	Arg	Ser	Pro	Glu	Tyr
						20			25			30			
Val	Leu	Asn	Ser	Leu	Thr	Glu	His	Ser	Glu	Asn	Leu	Asn	Tyr	Lys	Phe
						35			40			45			
Glu	Arg	Leu	Tyr	Arg	Ile	Phe	Phe	Asn	Glu	Glu	Met	Tyr	Tyr	Val	Ala
						50			55			60			
Tyr	Gln	Arg	Ile	Tyr	Ala	Lys	Pro	Gly	Asn	Met	Thr	Ala	Gly	Ala	Asp
						65			70			75			80
Gly	Lys	Thr	Ile	Asp	Gln	Met	Ser	Leu	Asn	Arg	Ile	Glu	Gln	Leu	Ile
						85			90			95			
Thr	Ser	Leu	Lys	Asp	Glu	Ser	Tyr	Gln	Pro	Gln	Pro	Ser	Lys	Arg	Met
						100			105			110			
Tyr	Ile	Pro	Lys	Lys	Asn	Gly	Lys	Met	Arg	Pro	Leu	Gly	Val	Pro	Ala
						115			120			125			
Phe	Asn	Asp	Lys	Leu	Leu	Gln	Glu	Val	Val	Arg	Met	Ile	Leu	Glu	Ala
						130			135			140			
Ile	Tyr	Glu	Arg	Gln	Phe	Glu	Lys	Thr	Ser	His	Gly	Phe	Arg	Pro	Leu

145	150	155	160
Arg Ser Cys His Thr Ala Leu Ser Asp Ile Gln Lys Thr Phe Ser Gly			
165	170	175	
Val Lys Trp Phe Val Glu Gly Asp Ile Lys Gly Phe Phe Asp Asn Ile			
180	185	190	
Asn His Glu Ile Leu Ile Gly Ile Leu Lys Glu Arg Ile Ala Asp Glu			
195	200	205	
Arg Phe Ile Arg Leu Ile Arg Lys Phe Leu Asn Ala Gly Tyr Ile Glu			
210	215	220	
Asp Trp Asn Phe His Asn Ser Tyr Ser Gly Thr Pro Gln Gly Gly Ile			
225	230	235	240
Val Ser Pro Ile Leu Ala Asn Ile Tyr Leu Asp Lys Leu Asp Lys Phe			
245	250	255	
Met Lys Glu Tyr Thr Gly Lys Phe Asp Lys Gly Lys Glu Arg Lys Arg			
260	265	270	
Thr Lys Gln Val Val Ser Leu Glu Gly Lys Arg His Arg Ile Leu Lys			
275	280	285	
Lys Leu Lys Val Val Lys Asp Lys Ser Glu Arg Ser Glu Leu Ile Arg			
290	295	300	
Gln Tyr Lys Ala Tyr Gln Lys Glu Gly Leu Gln Tyr Ser Asp Gly Asp			
305	310	315	320
Glu Met Asp Met Asn Tyr Arg Lys Leu Lys Tyr Val Arg Tyr Ala Asp			
325	330	335	
Asp Phe Leu Ile Gly Ile Ile Gly Ser Lys Gln Asp Ala Ile Ile Ile			
340	345	350	
Lys Glu Asp Ile Lys Asn Phe Leu Tyr Glu Lys Leu Ala Leu Thr Leu			
355	360	365	
Ser Asp Glu Lys Thr Leu Ile Thr His Ala Glu Asn Ala Ala Lys Phe			
370	375	380	
Leu Gly Tyr Glu Ile Phe Val Arg Lys Ser Asn Asp Thr Lys Arg Ser			
385	390	395	400
Lys Tyr Gly Val Leu Arg Arg Val Phe Asn Lys Arg Ile Gln Leu Ala			
405	410	415	
Leu Gly Lys Asp Thr Phe Lys Lys Leu Leu Glu Tyr Arg Val Leu			
420	425	430	
Glu Ile Lys Ile His Asn Gly Lys Glu Tyr Trp Lys Ala Lys Ser Arg			
435	440	445	
Pro Lys Leu Ser Asn Asn Asn Asp Phe Glu Ile Leu Asp Arg Tyr Asn			
450	455	460	
Lys Glu Ile Lys Gly Ile Tyr Asn Tyr Tyr Cys Leu Ala Asn Asn Cys			
465	470	475	480
Ser Ser Leu Ser Lys Leu Gly Tyr Ile Met Lys Tyr Ser Met Tyr Lys			
485	490	495	
Thr Phe Ala Gln Lys Tyr Arg Thr Thr Met Ser Gln Ile Arg Lys Lys			
500	505	510	
Tyr Thr Lys Asn Gly Leu Phe Ser Val Arg Tyr Tyr Leu Lys Asn Gly			
515	520	525	
Thr Ala Lys Asp Leu Thr Phe Tyr His Gly Gly Phe Lys Lys Lys Asn			
530	535	540	
Pro Met Asn Ile Lys Asp Leu Asp Asn Leu Pro Lys Phe Thr Tyr His			
545	550	555	560
Pro Thr Asn Thr Ser Leu Ile Asp Arg Leu Lys Ala Glu Lys Cys Glu			
565	570	575	
Leu Cys Gly Ala Val Asp Lys Leu Val Met His His Val Arg Lys Leu			
580	585	590	
Lys Asn Leu Gln Gly Lys Thr Thr Cys Glu Lys Gln Met Met Ala Arg			
595	600	605	
Lys Arg Lys Thr Ile Ala Ile Cys Gly Lys Cys Tyr Lys Lys Leu Ser			
610	615	620	

Asn Asn Glu  
625

<210> 6972  
<211> 160  
<212> PRT  
<213> B.fragilis

<400> 6972  
Val Leu Gly Arg Asn Gln Pro Tyr His Gln Thr Ser Met Ser Met Gly  
1 5 10 15  
Ser Arg Lys Val Asn Thr Glu Gly Ile Asp Glu Glu Leu Leu Ile Ala  
20 25 30  
Ser Ile Gly Arg Arg Lys Gln Asp Gly Thr Leu Tyr Arg Ala Gln Glu  
35 40 45  
Pro Pro Val Pro Ala Pro Glu Glu Glu Ser Val Pro Glu Thr Glu Pro  
50 55 60  
Pro Pro Thr Ala Ser Pro Ser Arg Glu Lys Val Gln Lys Asp Thr Ala  
65 70 75 80  
Arg Arg Lys Arg Gln Glu Asp Asp Tyr Ser Gly Leu Phe Leu Arg Arg  
85 90 95  
Asn Glu Ile Lys Thr Arg Gln Cys Val Tyr Ile Ser Arg Asp Val His  
100 105 110  
Ser Lys Ile Leu Lys Ile Val Asn Asp Ile Ala Gly Arg Glu Ile Ser  
115 120 125  
Val Gly Gly Tyr Val Asp Thr Val Leu Arg Gln His Leu Glu Gln His  
130 135 140  
Lys Glu Lys Ile Asn Glu Leu Tyr Lys Asn Gln Arg Glu Asp Leu Ile  
145 150 155 160

<210> 6973  
<211> 439  
<212> PRT  
<213> B.fragilis

<400> 6973  
Lys Phe Leu Gly Cys Phe Pro Phe Gly Glu His Glu Ser Arg Val Val  
1 5 10 15  
Val Pro Val Lys Gly Asn His Gly Ile Glu Ala Leu Ala Leu Ala  
20 25 30  
Leu Glu Ala Phe Glu Gln Phe Arg Val Ser Val Gly Glu Gln Val Phe  
35 40 45  
Asp Leu Val Ile Gly Glu Gly Thr Val Cys Leu Gln Ala Glu His Gly  
50 55 60  
Gln Pro Ala Leu Arg Val Val Ala Ala Asp Asp Leu Ala Val Lys Leu  
65 70 75 80  
His Thr Ser Arg Ser Ala Leu Gly Thr Leu Ala Ala Gly Ile Pro Ala  
85 90 95  
Gly Glu Gln Leu Val Ala Arg Glu Gln Phe Gly Gly Asn Phe Leu Arg  
100 105 110  
Val Arg Leu Tyr Leu Leu Ala Glu Gly Ile Gly Arg Gln Phe Pro Ala  
115 120 125  
Leu Asn Ala Cys Gln Leu Leu Phe Pro Phe Ala Arg His Gly Asn Val  
130 135 140  
Gly Asp Ala His Arg Leu His Asp Arg Val Glu Gly Lys Pro Leu Phe  
145 150 155 160  
Gly Arg Tyr Lys Arg Leu Leu Ala Ala Phe His Val Ser Pro Phe Glu  
165 170 175  
Lys Arg Phe Asp Asn Arg Cys Thr Gly Ser Arg Arg Ala Asn Ala Ala

180	185	190
Val Leu Gln Ser Leu Thr Gln Arg	Ile Val Leu Asn Leu	Leu Ala Cys
195	200	205
Arg Phe His Ser Gly Gln Gln Gly	Gly Phe Gly Met Gln Arg Phe Arg	
210	215	220
Leu Gly Leu Ala Leu Cys Asp Gly	Gly Ser Phe Gln Cys Gln Arg Val	
225	230	235
Ala Phe Leu Pro Ala Gly Asp Asp	Gly Phe Leu Phe Leu Phe Leu Ala	
245	250	255
Ile Asp Gly Thr Pro Pro Gly Leu	Phe Asp Asp Ala Ala Phe Cys His	
260	265	270
Glu Leu Arg Ser Gly Thr Leu Arg	Arg Asn Ser Gly Gly Val Phe Asp	
275	280	285
Ala Phe Phe Arg Glu Ser Leu Asn	His Ala Ser Gly Asn His Leu Ile	
290	295	300
Asp Gly Ile Ile Phe Phe Gly Glu	Glu Gln Arg Phe Leu Ala Arg Asp	
305	310	315
Glu Gln Gly Val Val Val Arg Tyr	Leu Ala Thr Val His Ala Ala Ala	
325	330	335
Cys Arg His Gly Phe Arg Ile Asp	Phe Ala Phe Pro Phe Gly Gln Ala	
340	345	350
Ala Asp Glu Gly Glu Gln Leu	Gly Tyr Phe His Glu His Val Phe Trp	
355	360	365
Asp Val Ala Ala Ser Cys Ser	Trp Ile Gly Asp Glu Phe Leu Leu Val	
370	375	380
Glu Leu Leu Cys Asp Phe Lys Arg	Leu Phe Cys Arg Glu Ala Val Leu	
385	390	395
Gly Val Gly Phe Leu Leu Glu Arg	Gly Gln Val Val Gln Lys Arg Ser	
405	410	415
Val Leu Arg Leu Leu Ala Phe	Cys Phe Arg Asp Ser Gly Cys Ala	
420	425	430
Cys Phe Leu Tyr Leu Ile Val		
435		

&lt;210&gt; 6974

&lt;211&gt; 179

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6974

Pro Arg Asn Gly Asp Ala Glu Gln Ser	Phe Val Ser Thr Phe Leu Thr		
1	5	10	15
Ile Lys Ser Asn Asp Tyr Gly Asn	Thr Asn Asp His Gln Arg Ser Lys		
20	25	30	
Tyr Leu His Glu Ser Arg Asp Arg	Glu Ile Arg Glu Val Pro Asn Gly		
35	40	45	
Tyr Arg Gln Thr Gln Ala Asp	Thr Cys Ala Ile Arg Leu Pro Pro His		
50	55	60	
Gly Arg Gly Ile Ile Leu	Leu Cys Glu Thr His Val Gly Arg Val Pro		
65	70	75	80
Asn Arg Thr Gly Gln Val Ala Asp	Gly Lys Lys Arg Lys Gly Gln		
85	90	95	
Ala Met Asn Glu Ser Gly Tyr	Gln Thr Leu Ile Val Lys Phe Ser Lys		
100	105	110	
Pro Ile Thr Glu Leu Asp Gly	Ile Phe Asp Asp Ala Glu Ala Trp Gly		
115	120	125	
Val Glu Thr Leu Lys Gly Trp	Val Glu Asp Tyr Glu Ser Ser Arg Phe		
130	135	140	
Thr Ala Ile Asp Thr His Thr	Ala Val Ile Thr Ser Glu Tyr Asn Met		

145	150	155	160
Glu Cys Val Lys Thr Trp Leu Glu Arg Asn Thr Pro Ile Ala Glu Lys			
165	170	175	
Thr Glu Phe			

<210> 6975  
<211> 152  
<212> PRT  
<213> B.fragilis

<400> 6975  
His Pro His Gly Ser His Asn Glu Arg Val Gln Tyr Gly Val Cys Glu  
1               5               10               15  
Asn Met Val Gly Lys Glu His Pro His Ser Arg Glu Asn Arg Ile Leu  
20              25              30  
Asn Ile Arg Ala Val Ser Ala Pro Pro Glu His Ser Thr Gln Arg Arg  
35              40              45  
Met Asn Met Ile Ala Lys Thr Ile Leu Glu Gln Ile Gly Gly Arg Arg  
50              55              60  
Phe Ala Ala Met Thr Gly Ser Lys Asp Phe Ile Asp Met Gly Asn Gly  
65              70              75              80  
Leu Arg Met Ser Leu Ala Arg Asn Lys Thr Ser Ala Asn Arg Leu Asp  
85              90              95  
Ile Ile Tyr Asp Ala Gly Ala Asp Leu Tyr Asn Met Arg Phe Tyr Arg  
100             105             110  
Arg Thr Phe Ser Lys Lys Thr Phe Glu Cys Lys Thr Lys Asp Ile Glu  
115             120             125  
Thr His Glu Arg Ile Tyr Cys Asp Met Leu Glu Glu Met Phe Thr Met  
130             135             140  
Val Thr Gly Leu Tyr Thr Arg Phe  
145             150

<210> 6976  
<211> 430  
<212> PRT  
<213> B.fragilis

<400> 6976  
Phe Arg Leu Met Lys Pro Arg Thr Gln Ile Gln Gln Glu Val Ala His  
1               5               10               15  
Leu Ser Lys Arg Leu Pro Arg Leu Thr Ala Thr Gln Lys Ala Tyr Ala  
20              25              30  
Phe Arg His Cys Phe Lys His Tyr Ala Ile Lys Arg Ala Asp Gly Thr  
35              40              45  
Asn Ile Cys Thr Glu Cys Gly His Ser Trp Lys Ser Asp His Asp Leu  
50              55              60  
Ala Asp Thr Ile Cys Gly Cys Thr Cys Pro His Cys Gly Met Gln Leu  
65              70              75              80  
Glu Ala Leu Arg Thr Arg Lys Ser Val Phe Ser Glu Asn Glu Tyr Phe  
85              90              95  
Ser Ile Val Thr Thr Ser Lys Gln Tyr Gln Val Ile Arg Phe Phe Phe  
100             105             110  
Val Lys Ser Arg Tyr Lys Ala Gly Gln Ala Ala Glu Tyr Ser Ile Tyr  
115             120             125  
Glu Val Val Gln Arg Trp Ile Ser Pro Asp Gly Lys Thr Thr Thr Val  
130             135             140  
Ala Arg Leu Arg Gly Met Ser Met Leu Tyr Tyr Asp Gln Trp Ser Glu  
145             150             155             160

Tyr Ser Asp Met Glu Val Arg Lys Asn Asn Gly Leu His Ala Tyr Asp  
                   165                  170                  175  
 Ile Thr Pro Met Cys Thr Tyr Pro Arg Gln Arg Phe Ile Pro Glu Leu  
                   180                  185                  190  
 Lys Arg Asn Gly Phe Lys Gly Asp Tyr His Asn Thr Leu Pro Tyr Asp  
                   195                  200                  205  
 Leu Phe Thr Ala Ile Leu Ser Asp Ser Arg Thr Glu Thr Leu Leu Lys  
                   210                  215                  220  
 Ala Gly Gln Tyr Ala Met Leu Arg His Tyr Ile Arg Ser Ser Phe Asp  
                   225                  230                  235                  240  
 Met Gly Arg Tyr Trp Ala Ser Val Lys Ile Cys Ile Arg Asn Gly Tyr  
                   245                  250                  255  
 Thr Ile Ser Asp Gly Ser Val Trp Cys Asp Thr Ile Asp Leu Leu Arg  
                   260                  265                  270  
 His Phe Gly Lys Asp Thr Asn Ser Pro Lys Tyr Val Cys Pro Ala Asn  
                   275                  280                  285  
 Leu Lys Ala Glu His Asp Lys Leu Val Ala Lys Arg Asn Leu Gln Arg  
                   290                  295                  300  
 Glu Arg Glu Arg Thr Glu Gln Gln Arg Gln Lys Ala Ile Glu Asp Glu  
                   305                  310                  315                  320  
 Lys Asn Tyr Leu Lys Ala Lys Gly Ile Phe Phe Gly Leu Val Phe Ser  
                   325                  330                  335  
 Asp Ser Leu Ile Cys Ile Lys Val Ile Glu Ser Val Lys Glu Met Glu  
                   340                  345                  350  
 Glu Glu Gly Arg Ile Met His His Cys Val Gly Gly Tyr His Asn Lys  
                   355                  360                  365  
 Ala Asn Ser Leu Ile Leu Ser Ala Thr Ile Asp Gly Lys Arg Ile Glu  
                   370                  375                  380  
 Thr Ile Glu Val Ser Leu Lys Thr Leu Lys Val Val Gln Ser Arg Gly  
                   385                  390                  395                  400  
 Val Cys Asn Ser Asn Thr Glu Tyr His Asp Arg Ile Ile Arg Leu Val  
                   405                  410                  415  
 Glu Asp Asn Ala Gly Leu Ile Arg Gln Arg Met Asn Ala Ala  
                   420                  425                  430

&lt;210&gt; 6977

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6977

Tyr Gln Pro Ile Ile Lys Asn Asn Met Asp Val Arg Phe Glu Ser Met  
 1                  5                  10                  15  
 Val Cys Leu Trp Asp Asp Lys Ile Pro Thr Met Phe Leu Glu Phe Met  
                   20                  25                  30  
 Asn Leu Leu Thr Phe Cys Gln Ser Glu Glu Gln Leu Arg Ala Gly Val  
                   35                  40                  45  
 Lys Asp Phe Ser Glu Lys His Glu Leu Asp Lys Phe Phe Leu Tyr Gly  
                   50                  55                  60  
 Phe Gly Ser His His Phe Tyr Leu His Gln Arg Tyr Thr Ser Asn Pro  
                   65                  70                  75                  80  
 Glu Met Val Met Gln Asn Arg Val Leu Ser Val His Phe  
                   85                  90

&lt;210&gt; 6978

&lt;211&gt; 232

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6978

Lys Arg Leu Phe Met Tyr Ser Ile Leu Ile Ile Glu Asp Glu Gln Arg  
 1 5 10 15  
 Val Ala Asp Leu Leu Arg Ala Gly Leu Glu Glu Asn Gly Tyr Asn Cys  
 20 25 30  
 Leu Val Ala Tyr Asp Gly Ala Met Gly Leu Arg Met Phe Arg Ala Asn  
 35 40 45  
 Thr Phe Asp Leu Val Ile Ser Asp Ile Val Leu Pro Lys Met Asp Gly  
 50 55 60  
 Phe Glu Leu Cys Lys Glu Ile Arg Ala Ala Asn Pro Ala Ile Pro Ile  
 65 70 75 80  
 Leu Met Leu Thr Ala Leu Gly Ser Thr Asp Asp Lys Leu Asp Gly Phe  
 85 90 95  
 Asp Ala Gly Ala Asp Asp Tyr Met Val Lys Pro Phe Asp Phe Arg Glu  
 100 105 110  
 Leu Tyr Ala Arg Ile Arg Val Leu Leu Lys Arg Lys Leu Ala Val Val  
 115 120 125  
 Thr Asp Val Glu Glu Leu Asn Tyr Ala Asp Leu Ser Val Asn Leu  
 130 135 140  
 Leu Asp Lys Ser Val Lys Arg Ala Gly Arg Asp Ile Lys Leu Ser Pro  
 145 150 155 160  
 Lys Glu Tyr Asn Leu Leu Val Tyr Met Ile Glu Asn Ala Glu Lys Val  
 165 170 175  
 Val Ser Arg Met Asp Ile Ala Asp Lys Val Trp Asn Thr His Phe Asp  
 180 185 190  
 Thr Gly Thr Asn Phe Ile Asp Val Tyr Ile Asn Tyr Leu Arg Lys Lys  
 195 200 205  
 Ile Asp Arg Asp Phe Asp Thr Lys Leu Ile His Thr Lys Thr Gly Met  
 210 215 220  
 Gly Phe Ile Leu Thr Asp Lys Leu  
 225 230

&lt;210&gt; 6979

<211> 367  
<212> PRT  
<213> B.fragilis

&lt;400&gt; 6979

Phe Cys Gly Met Met Glu Lys Asn Lys Arg Val Leu Leu Gly Met Ser  
 1 5 10 15  
 Gly Gly Thr Asp Ser Ser Val Ala Ala Met Leu Leu Leu Glu Ala Gly  
 20 25 30  
 Tyr Glu Val Thr Gly Val Thr Phe Arg Phe Tyr Glu Phe Asn Gly Ser  
 35 40 45  
 Thr Glu Tyr Leu Glu Asp Ala Arg Ala Leu Ala Arg Leu Gly Ile  
 50 55 60  
 Gly His Ile Thr Tyr Asp Ala Arg Lys Val Phe Gln Glu Gln Ile Ile  
 65 70 75 80  
 Asp Tyr Phe Ile Asp Glu Tyr Met Ser Gly His Thr Pro Val Pro Cys  
 85 90 95  
 Thr Leu Cys Asn Asn Gln Leu Lys Trp Pro Leu Leu Ala Lys Ile Ala  
 100 105 110  
 Asp Glu Met Gly Ile Phe Tyr Leu Ala Thr Gly His Tyr Val Arg Lys  
 115 120 125  
 Gln Trp Val Asp Gly Asn Tyr Tyr Ile Ala Pro Ala Glu Asp Val Asp  
 130 135 140  
 Lys Asp Gln Ser Phe Phe Leu Trp Gly Leu Lys Gln Glu Ile Leu Gln  
 145 150 155 160  
 Arg Met Leu Leu Pro Met Gly Gly Met Thr Lys Ser Glu Ala Arg Ala

165	170	175
Tyr Ala Ala Gly Arg Gly Phe Glu Lys Ile Ser Lys Lys Lys Asp Ser		
180	185	190
Ile Gly Val Cys Phe Cys Pro Leu Asp Tyr Arg Ser Phe Leu Lys Lys		
195	200	205
Cys Leu Cys Asp Glu Ser Gly Asp Lys Asn Arg Asn Ile Tyr Arg Lys		
210	215	220
Val Glu Arg Gly Arg Phe Leu Asp Glu Ser Gly Asn Phe Ile Ala Trp		
225	230	235
His Glu Gly Tyr Pro Phe Tyr Thr Ile Gly Gln Arg Arg Gly Leu Gly		
245	250	255
Ile Gln Leu Asn Arg Ala Val Phe Val Lys Glu Ile His Pro Glu Thr		
260	265	270
Asn Glu Val Val Leu Ala Ser Leu Lys Ser Leu Glu Lys Ser Glu Met		
275	280	285
Trp Leu Lys Asp Trp Asn Ile Val Asp Glu Ser Arg Leu Leu Gly Cys		
290	295	300
Asp Asp Val Ile Val Lys Ile Arg Tyr Arg Lys Gln Glu Asn His Cys		
305	310	315
Ser Val Thr Ile Thr Pro Glu Gly Leu Leu His Ile Arg Leu His Glu		
325	330	335
Pro Leu Ser Ala Ile Ala Glu Gly Gln Ala Ala Ala Phe Tyr Lys Asp		
340	345	350
Gly Leu Leu Leu Gly Gly Gly Ile Ile Thr Met Ser Asp Gln Arg		
355	360	365

&lt;210&gt; 6980

&lt;211&gt; 190

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6980

Ile Ser Ile Phe Val Arg Lys Cys Arg	Leu	Leu	Met	Ile	Arg	Ile	Phe
1	5	10	15				
Leu Thr Gly Tyr Met Gly Ala Gly Lys	Thr	Thr	Leu	Gly	Lys	Ala	Leu
20	25	30					
Ala Arg Glu Leu His Ile Pro Phe Ile Asp Leu Asp Trp Tyr Ile Glu							
35	40	45					
Glu Arg Phe His Lys Thr Val Gly Glu Leu Phe Ser Glu Arg Gly Glu							
50	55	60					
Ala Ser Phe Arg Glu Leu Glu Lys Asn Met Leu His Glu Val Gly Glu							
65	70	75	80				
Phe Glu Asp Val Val Ile Ser Thr Gly Gly Ala Pro Cys Phe Phe							
85	90	95					
Asp Asn Met Glu Tyr Met Asn Arg Val Gly Thr Thr Val Phe Leu Asp							
100	105	110					
Val Asp Pro Lys Val Leu Phe Ser Arg Leu Arg Val Ala Lys Gln Gln							
115	120	125					
Arg Pro Ile Leu Gln Gly Lys Lys Asp Asp Glu Leu Leu Asp Phe Ile							
130	135	140					
Val Gln Ala Leu Glu Lys Arg Ala Pro Phe Tyr Arg Gln Ala Asn Tyr							
145	150	155	160				
Ile Tyr Cys Ala Asp Lys Leu Glu Asp Arg Ser Gln Ile Glu Thr Ser							
165	170	175					
Val Gln Gln Leu Arg Lys Leu Leu Asn Leu His Ile Ala Ser							
180	185	190					

&lt;210&gt; 6981

&lt;211&gt; 425

<212> PRT  
<213> B.fragilis

<400> 6981

Phe	Asp	Phe	Ile	Ser	Met	Glu	Leu	Lys	Arg	Val	Val	Val	Thr	Gly	Leu
1					5				10				15		
Gly	Ala	Ile	Thr	Pro	Val	Gly	Asn	Asn	Val	Pro	Glu	Phe	Trp	Glu	Asn
					20				25				30		
Leu	Val	Asn	Gly	Val	Ser	Gly	Ala	Gly	Pro	Ile	Thr	His	Phe	Asp	Ala
					35				40			45			
Ser	Gln	Phe	Lys	Thr	Gln	Phe	Ala	Cys	Glu	Val	Lys	Gly	Phe	Asp	Ala
					50				55			60			
Thr	Gln	Tyr	Ile	Asp	Arg	Lys	Glu	Ala	Arg	Lys	Met	Asp	Leu	Tyr	Thr
					65				70			75			80
Gln	Tyr	Ala	Val	Ala	Val	Ala	Lys	Glu	Ala	Val	Ala	Asp	Ser	Gly	Leu
					85				90			95			
Asp	Ile	Glu	Asn	Glu	Asp	Leu	Asn	Arg	Ile	Gly	Val	Ile	Phe	Gly	Ala
					100				105			110			
Gly	Ile	Gly	Gly	Ile	Arg	Thr	Phe	Glu	Glu	Glu	Thr	Ser	Asn	Tyr	Ala
					115				120			125			
Leu	His	Lys	Glu	Asn	Gly	Pro	Lys	Tyr	Asn	Pro	Phe	Phe	Ile	Pro	Lys
					130				135			140			
Met	Ile	Ser	Asp	Ile	Ala	Ala	Gly	Gln	Ile	Ser	Ile	Met	Tyr	Gly	Phe
					145				150			155			160
His	Gly	Pro	Asn	Tyr	Ala	Thr	Cys	Ser	Ala	Cys	Ala	Thr	Ser	Thr	Asn
					165				170			175			
Ala	Ile	Ala	Asp	Ala	Phe	Asn	Leu	Ile	Arg	Leu	Gly	Lys	Ala	Asn	Val
					180				185			190			
Ile	Val	Ser	Gly	Gly	Ser	Glu	Ala	Ala	Ile	Ala	Ala	Gly	Val	Gly	
					195				200			205			
Gly	Phe	Asn	Ala	Met	His	Ala	Leu	Ser	Thr	Arg	Asn	Asp	Glu	Pro	Gln
					210				215			220			
Ser	Ala	Ser	Arg	Pro	Phe	Ser	Ala	Ser	Arg	Asp	Gly	Phe	Val	Met	Gly
					225				230			235			240
Glu	Gly	Gly	Cys	Leu	Ile	Leu	Glu	Glu	Leu	Glu	His	Ala	Lys	Ala	
					245				250			255			
Arg	Gly	Ala	Lys	Ile	Tyr	Ala	Glu	Val	Ala	Gly	Val	Gly	Met	Ser	Ala
					260				265			270			
Asp	Ala	His	His	Leu	Thr	Ala	Ser	His	Pro	Glu	Gly	Leu	Gly	Ala	Lys
					275				280			285			
Leu	Val	Met	Lys	Asn	Ala	Leu	Glu	Asp	Ala	Glu	Met	Ser	Pro	Glu	Glu
					290				295			300			
Val	Asp	Tyr	Ile	Asn	Val	His	Gly	Thr	Ser	Thr	Pro	Val	Gly	Asp	Ile
					305				310			315			320
Ser	Glu	Ala	Lys	Ala	Ile	Lys	Glu	Val	Phe	Gly	Glu	His	Ala	Phe	Glu
					325				330			335			
Leu	Asn	Ile	Ser	Ser	Thr	Lys	Ser	Met	Thr	Gly	His	Leu	Leu	Gly	Ala
					340				345			350			
Ala	Gly	Ala	Val	Glu	Ser	Ile	Ala	Ser	Ile	Leu	Ala	Ile	Lys	Asn	Gly
					355				360			365			
Ile	Val	Pro	Pro	Thr	Ile	Asn	His	Ala	Glu	Gly	Asp	Asn	Asp	Glu	Asn
					370				375			380			
Ile	Asp	Tyr	Asn	Leu	Asn	Phe	Thr	Phe	Asn	Lys	Ala	Gln	Lys	Arg	Glu
					385				390			395			400
Ile	Asn	Val	Ala	Leu	Ser	Asn	Thr	Phe	Gly	Phe	Gly	Gly	His	Asn	Ala
					405				410			415			
Cys	Val	Ile	Phe	Lys	Lys	Tyr	Ala	Glu							
					420				425						

<210> 6982  
<211> 89  
<212> PRT  
<213> B.fragilis

<400> 6982

His	Thr	Phe	Ile	Ser	Asn	Lys	Ile	His	Ser	Phe	Arg	Asn	Phe	Thr	Leu
1							5		10					15	
Gln	Asn	Thr	Gly	Lys	Ala	Leu	Leu	Val	Ile	Asp	Asp	Val	Asn	Thr	Ser
							20		25					30	
Cys	Gly	Cys	Thr	Ser	Val	Gln	Tyr	Ser	Lys	Glu	Pro	Val	Lys	Pro	Gly
						35		40				45			
Glu	Ser	Leu	Arg	Ile	Thr	Val	Ile	Tyr	Lys	Ala	Asp	His	Pro	Glu	His
						50		55			60				
Phe	Arg	Lys	Thr	Ile	Thr	Ile	Tyr	Cys	Asn	Val	Pro	Thr	Ser	Pro	Leu
						65		70			75			80	
Gln	Leu	Lys	Ile	Thr	Gly	Asn	Ala	Glu							
					85										

<210> 6983  
<211> 311  
<212> PRT  
<213> B.fragilis

<400> 6983

Phe	Asn	Leu	Ile	Asp	Leu	Ile	Met	Asn	Val	Asp	Cys	Val	Ile	Val	Thr
1							5		10					15	
Tyr	Asn	Arg	Leu	Ser	Leu	Leu	Lys	Glu	Cys	Ile	Thr	Ala	Val	Lys	Gly
							20		25					30	
Gln	Ser	Tyr	Pro	Ala	Arg	Lys	Ile	Tyr	Val	Ile	Asp	Asn	Ser	Thr	
							35		40			45			
Asp	Gly	Thr	Leu	Glu	Phe	Leu	Glu	Lys	Phe	Ser	Gln	Asp	Ser	Gln	Val
							50		55			60			
Lys	Val	Ile	Asn	Leu	Thr	Glu	Asn	Ile	Gly	Gly	Ala	Gly	Gly	Phe	Ser
							65		70			75			80
Arg	Gly	Ile	Lys	Glu	Ala	Val	Met	Ala	Gly	Ala	Asp	Trp	Val	Trp	Val
							85		90			95			
Met	Asp	Asp	Asp	Thr	Ile	Pro	Tyr	Ser	Asp	Ala	Leu	Glu	Lys	Met	Leu
							100		105			110			
Lys	Thr	Ile	Asp	Leu	Thr	Lys	Asn	Val	Gly	Tyr	Val	Cys	Ser	Lys	Val
							115		120			125			
Leu	Trp	Thr	Asp	Glu	Thr	Pro	His	Arg	Met	Asn	Met	Pro	Gly	Tyr	Ser
							130		135			140			
Ile	Gly	Thr	Gln	Lys	Gly	Val	Leu	Tyr	Asn	Ala	Phe	Ser	Asn	Arg	Asp
							145		150			155			160
Thr	Pro	Ala	Phe	Leu	Ile	His	His	Ala	Ser	Phe	Val	Ser	Leu	Leu	Val
							165		170			175			
Asn	Ala	Lys	Ala	Val	Lys	Ser	Ala	Gly	Leu	Pro	Ile	Ser	Glu	Phe	Phe
							180		185			190			
Ile	Trp	Gly	Asp	Asp	Ile	Glu	Tyr	Thr	Met	Arg	Ile	Ser	Ser	Leu	Gly
							195		200			205			
Tyr	Ile	Gly	Phe	Tyr	Val	Asp	Asn	Ser	Ile	Val	Leu	His	Lys	Thr	Pro
							210		215			220			
Thr	Asn	Tyr	Gln	Pro	Tyr	Pro	Asp	Thr	Ala	Pro	Thr	Asn	Thr	Ala	Trp
							225		230			235			240
Lys	Phe	Tyr	Tyr	Gln	Ala	Arg	Asn	Thr	Ala	Tyr	Leu	Lys	Arg	Arg	Lys
							245		250			255			
Thr	Lys	Asn	Arg	Leu	Cys	Phe	Leu	Leu	Ser	Ile	Ile	Asn	Lys	Tyr	Arg
							260		265			270			

Val Tyr Ile His Arg Ile Asn Lys Arg Lys Thr Asn Asp Lys Leu Ile  
 275 280 285  
 Phe Lys Lys Tyr Val Arg Lys Gly Cys Trp Asp Gly Leu Thr Phe Asn  
 290 295 300  
 Pro Gln Ile Glu Tyr Leu Pro  
 305 310

<210> 6984

<211> 63

<212> PRT

<213> B.fragilis

<400> 6984

Ile	Leu	Ser	Phe	Leu	Gln	Val	Ser	Val	Gly	Trp	Gln	Leu	His	Phe	Phe
1				5				10				15			
Ser	Phe	Trp	Ala	Ala	Leu	Ile	Lys	Ile	Tyr	Ser	Tyr	Phe	Arg	Leu	Tyr
	20					25				30					
Thr	Phe	Met	Ser	Ile	Tyr	Val	Lys	Asn	Pro	Ala	Asp	Leu	Val	Tyr	Val
	35					40			45						
Leu	Ser	Val	Thr	Ile	Cys	Lys	Thr	Ile	Phe	Asp	Pro	Gln	Arg	Gly	
	50					55			60						

<210> 6985

<211> 162

<212> PRT

<213> B.fragilis

<400> 6985

Arg	Asn	Lys	Ile	Met	Lys	Ser	Val	Leu	Leu	Met	Cys	Trp	Met	Ala	Leu
1				5				10			15				
Leu	Ser	Val	Ala	Val	Ser	Ala	Gln	Asp	Phe	Asp	Ser	Arg	Phe	Met	Ala
	20					25			30						
Glu	His	Gln	Ala	Asp	Ser	Asn	Leu	Thr	Cys	Val	Thr	Ile	Ser	Pro	Lys
	35					40			45						
Met	Met	Glu	Glu	Ile	Met	Lys	Ser	Asp	Ala	Glu	Lys	Asp	Lys	Glu	Val
	50					55			60						
Leu	Asp	Met	Ile	Ser	Asn	Leu	Lys	Ser	Met	Gln	Val	Leu	Thr	Ser	Asp
	65					70			75			80			
Val	Glu	Gly	Lys	Tyr	Phe	Asn	Ala	Ala	Leu	Lys	Val	Val	Glu	Lys	
						85			90			95			
Asn	Ser	Gly	Arg	Phe	Glu	Ser	Phe	Leu	Ser	Phe	Lys	Asp	Lys	Ser	Glu
							100		105			110			
Asn	Cys	Gln	Ile	Met	Val	Arg	Lys	Lys	Lys	Ser	Thr	Ile	Val	Glu	Leu
	115					120				125					
Val	Met	Leu	Met	His	Glu	Lys	Asn	His	Phe	Ala	Val	Val	Asn	Phe	Thr
	130				135				140						
Gly	Asn	Met	Ser	Pro	Glu	Phe	Ile	Ala	Gln	Ile	Lys	Arg	His	Phe	His
	145				150				155			160			
Leu	Leu														

<210> 6986

<211> 456

<212> PRT

<213> B.fragilis

<400> 6986

Val	Met	Lys	Ile	Arg	Ser	Ile	Leu	Thr	Ile	Lys	Tyr	Ala	Gly	Ile	Thr
1				5				10			15				

Ala Thr Ile Phe Leu Val Phe Met Ala Thr Ile Tyr Cys Val Asn Glu  
     20                 25                 30  
 His Leu Arg Ser Asp Ser Phe Tyr Arg Ser Leu Arg Ser Glu Ala Ile  
     35                 40                 45  
 Thr Lys Ala His Leu Phe Leu Asn Asn Gln Val Asp Val Glu Thr Met  
     50                 55                 60  
 Gln Ser Ile Tyr Leu Asn Asn Arg Gln Phe Ile Asp Glu Val Glu Val  
     65                 70                 75                 80  
 Ala Val Tyr Thr Pro Asp Phe Arg Ile Leu Tyr His Asp Ala Leu His  
     85                 90                 95  
 Asn Asp Ile Ile Lys Glu Thr Pro Gly Met Ile Asp Glu Ile Val Arg  
    100                 105                110  
 Lys Lys Glu Ile Asp Phe Arg Thr Gly Asp Tyr Gln Gly Ile Gly Ile  
    115                 120                125  
 Leu Tyr Glu Phe Gly Gly Lys Asn Tyr Val Val Thr Ala Ala Ala Tyr  
    130                 135                140  
 Asp Arg Tyr Gly His Ile Asn Gln Val Ile Met Thr Arg Leu Leu Leu  
    145                 150                155                160  
 Leu Leu Ser Ile Gly Gly Leu Ser Val Leu Val Ile Val Gly Tyr Met  
    165                 170                175  
 Leu Ala Lys Ser Ser Leu Ala Pro Ile Arg Ser Ile Val Arg Lys Ala  
    180                 185                190  
 Glu Gly Ile Thr Val Thr Gln Ile Asp Glu Arg Leu Pro Val Lys Asn  
    195                 200                205  
 Glu His Asp Glu Leu Gly Glu Leu Ala Leu Ala Phe Asn Ala Leu Leu  
    210                 215                220  
 Asp Arg Val Glu Lys Thr Phe Asn Asp Gln Arg Met Phe Val Ser Asn  
    225                 230                235                240  
 Val Ser His Glu Leu Arg Thr Pro Met Ala Ala Leu Ser Ala Glu Leu  
    245                 250                255  
 Asp Leu Ala Leu Gln Lys Glu Arg Thr Val Thr Gln Tyr Gln Asn Ser  
    260                 265                270  
 Ile His Asn Ala Leu Gln Asp Ser Gln Arg Val Ile Glu Leu Ile Asp  
    275                 280                285  
 Gly Leu Leu Asn Leu Ala Lys Ala Asp Tyr Tyr Pro Glu Gln Ile Lys  
    290                 295                300  
 Lys Glu Glu Ile Arg Leu Asp Glu Leu Leu Asp Ala Asn Glu Leu  
    305                 310                315                320  
 Val Leu Lys Ala His Pro Asp Tyr His Ile Glu Leu Ile Phe Glu Gln  
    325                 330                335  
 Glu Ala Asp Asp Asp Arg Val Leu Thr Val Ile Gly Asn Pro Tyr Leu  
    340                 345                350  
 Leu Thr Thr Ala Phe Val Asn Leu Ile Glu Asn Asn Cys Lys Tyr Ser  
    355                 360                365  
 Asp Asn Arg Thr Ser Phe Ile Gln Ile Ser Phe Cys Asp Gln Trp Thr  
    370                 375                380  
 Ile Val Ser Leu Ser Asp Asn Gly Ala Gly Met Ser Glu Thr Asp Lys  
    385                 390                395                400  
 Glu Asn Leu Phe Lys Leu Phe Tyr Arg Gly Glu Asn Lys Asn Gln Ala  
    405                 410                415  
 Gln Gly His Gly Ile Gly Met Thr Leu Thr Lys Lys Ile Leu Thr Leu  
    420                 425                430  
 His Lys Ser Glu Ile Ser Val Tyr Ser His Gln Gly Glu Gly Thr Thr  
    435                 440                445  
 Phe Val Val Arg Phe His His Leu  
    450                 455

&lt;210&gt; 6987

&lt;211&gt; 887

<212> PRT  
<213> B.fragilis

&lt;400&gt; 6987

Ser Ala Lys Ile Met Ile Trp Arg Lys Lys Glu Lys Lys Ala Gln  
1               5               10               15  
Tyr Gln Phe Asn Ser Glu Arg Val Phe Leu Val Ala Thr Gln Pro Ala  
20              25              30  
Lys Thr Ala Tyr Ser Tyr Phe Gln Thr Ser Ser Val Gly Leu Ser Glu  
35              40              45  
Glu Glu Ile Gly Gln Arg Gln Ser Ala Tyr Gly Lys Asn Glu Ile Ser  
50              55              60  
Arg Glu Gln Lys Lys Asn Pro Leu Val Leu Phe Ile Arg Thr Phe Ile  
65              70              75              80  
Asn Pro Phe Ile Gly Val Leu Thr Ala Leu Ala Val Ile Ser Leu Val  
85              90              95  
Ile Asp Val Val Met Ala Arg Pro Glu Asp Arg Glu Trp Thr Ala Val  
100             105             110  
Leu Ile Ile Ile Ser Met Val Val Cys Ser Ala Ile Leu Arg Phe Trp  
115             120             125  
Gln Glu Trp Lys Ala Ser Glu Ala Thr Asp Ser Leu Met Lys Met Val  
130             135             140  
Lys Asn Thr Cys Phe Val Lys Arg Phe Ser Gly Ser Glu Glu Val Asp  
145             150             155             160  
Ile Thr Glu Leu Val Pro Gly Asp Val Val Cys Leu Ala Ala Gly Asp  
165             170             175  
Met Ile Pro Ala Asp Ile Arg Ile Ile Glu Ser Lys Asp Leu Phe Val  
180             185             190  
Ser Gln Ala Ser Leu Thr Gly Glu Ser Asp Pro Val Glu Lys Phe Pro  
195             200             205  
Glu Ile Asn Gly Arg Arg His Ser His Gly Ser Val Ile Glu Leu Asp  
210             215             220  
Asn Ile Cys Tyr Met Gly Ser Thr Val Ile Ser Gly Ser Ala Lys Gly  
225             230             235             240  
Ile Val Phe Gly Thr Gly Asn Asp Thr Tyr Leu Gly Thr Ile Ala Arg  
245             250             255  
Ser Leu Val Gly Glu Arg Ala Thr Thr Ala Phe Asp Lys Gly Ile Ser  
260             265             270  
Lys Val Ser Phe Leu Leu Ile Arg Phe Met Leu Val Met Val Pro Phe  
275             280             285  
Val Phe Phe Val Asn Gly Phe Thr Lys Gly Asp Trp Phe Glu Ala Phe  
290             295             300  
Ile Phe Ala Leu Ser Val Ala Val Gly Leu Thr Pro Glu Met Leu Pro  
305             310             315             320  
Met Ile Val Thr Ala Asn Leu Ser Lys Gly Ala Val Ser Met Ser Lys  
325             330             335  
Lys Lys Thr Val Val Lys Asn Leu Asn Ala Ile Gln Asn Phe Gly Ala  
340             345             350  
Met Asn Ile Leu Cys Thr Asp Lys Thr Gly Thr Leu Thr Cys Asp Lys  
355             360             365  
Ile Val Leu Glu Lys Tyr Ile Asn Ala Asp Gly Ser Asp Asp His Ser  
370             375             380  
Arg Arg Ile Leu Arg His Ala Phe Leu Asn Ser Tyr Phe Gln Thr Gly  
385             390             395             400  
Leu Lys Asn Leu Met Asp Lys Ala Ile Leu Ala His Val Arg Glu Glu  
405             410             415  
Asn Leu Glu His Leu Thr Glu Gly Tyr Thr Lys Ile Asp Glu Ile Pro  
420             425             430  
Phe Asp Phe Ser Arg Arg Arg Met Ser Val Val Ile Glu Asp Gln Gln

435	440	445
Gly Lys Arg Gln Ile Ile Thr	Lys Gly Ala Val Glu	Glu Met Leu Asn
450	455	460
Ile Cys Ser His Ala Glu Phe Asn Gly Gln Val Tyr Glu Leu Thr Asp		
465	470	475
Lys Leu Arg Ser Lys Ala Lys Arg Ile Ser Asp Asp Met Asn Arg Asn		
485	490	495
Gly Met Arg Val Leu Ala Ile Ala Gln Lys Ser Phe Ile Ser Lys Ala		
500	505	510
Arg Asp Phe Ala Val Thr Asp Glu Asp Glu Met Val Leu Ile Gly Tyr		
515	520	525
Leu Ala Phe Leu Asp Pro Pro Lys Pro Ser Ser Ala Glu Ala Ile Arg		
530	535	540
Gln Leu Arg Glu Tyr Gly Ile Glu Val Lys Ile Leu Ser Gly Asp Asn		
545	550	555
Asp Val Ile Val Ser Ala Ile Ala Arg Gln Ile Gly Ile Asp Thr Cys		
565	570	575
His Ser Val Thr Gly Val Glu Leu Glu Gly Lys Asp Gly Glu Glu Leu		
580	585	590
Arg Glu Ile Val Gly Gln Ala Thr Leu Phe Ser Arg Leu Thr Pro Leu		
595	600	605
Gln Lys Ser Glu Ile Ile Met Ile Leu Gln Gln Asn Gly Asn Thr Val		
610	615	620
Gly Phe Leu Gly Asp Gly Val Asn Asp Ala Gly Ala Leu Arg Gln Ser		
625	630	635
Asp Ile Gly Ile Ser Val Asp Ser Ala Val Asp Ile Ala Lys Glu Ser		
645	650	655
Ala Asp Ile Ile Leu Leu Asp Lys Asp Leu Ser Val Leu Lys Glu Gly		
660	665	670
Val Leu Glu Gly Arg Lys Thr Phe Gly Asn Ile Thr Lys Tyr Ile Lys		
675	680	685
Met Thr Ala Ser Ser Asn Phe Gly Asn Met Phe Ser Val Met Phe Ala		
690	695	700
Ser Ala Phe Leu Pro Phe Leu Pro Met Leu Pro Ile His Leu Leu Ile		
705	710	715
Gln Asn Leu Leu Tyr Asp Ile Ser Gln Thr Thr Ile Pro Phe Asp Arg		
725	730	735
Met Asp Ala Glu Phe Leu Lys Gln Pro Gln Lys Trp Asp Ala Ser Asp		
740	745	750
Leu Ser Arg Phe Met Ile Tyr Ile Gly Pro Ile Ser Ser Val Phe Asp		
755	760	765
Ile Ala Thr Tyr Cys Leu Met Trp Tyr Val Phe Ala Cys Asn Ser Pro		
770	775	780
Glu His Gln Thr Leu Phe Gln Ser Gly Trp Phe Val Glu Gly Leu Leu		
785	790	795
Ser Gln Thr Leu Ile Val His Met Ile Arg Thr Arg Lys Ile Pro Phe		
805	810	815
Phe Gln Ser Arg Ala Thr Trp Pro Val Leu Gly Leu Thr Phe Leu Ile		
820	825	830
Met Ala Met Gly Ile Ala Ile Pro Phe Thr Ser Phe Gly Leu Ser Ile		
835	840	845
Gly Leu Glu Pro Leu Pro Leu Ser Tyr Phe Pro Trp Leu Val Leu Ile		
850	855	860
Leu Val Ser Tyr Cys Val Leu Thr Gln Phe Met Lys Ser Trp Tyr Ile		
865	870	875
Arg Arg Phe Ser Lys Trp Leu		
885		

<211> 62  
<212> PRT  
<213> B.fragilis

<400> 6988  
Leu Ala His Val Arg Ser Lys Ser Phe Cys Thr Met Val Cys Arg Arg  
1 5 10 15  
Ile Lys Pro Leu Leu Arg Lys Asn Leu Tyr Glu Ile Glu Lys Ile Arg  
20 25 30  
Glu Ile His Ile Lys Ile Ser Arg Phe Ile Val Thr Phe Ala Tyr Glu  
35 40 45  
Glu Phe Phe Glu Gly Tyr Ala Met Arg Arg Arg Ile Met Gln  
50 55 60

<210> 6989  
<211> 64  
<212> PRT  
<213> B.fragilis

<400> 6989  
Phe Ile Phe Phe Lys Asp Phe Ala Asn Ile Cys Tyr Ser Asn Gln Lys  
1 5 10 15  
His Lys Gln Leu Tyr Asn Leu Ile Lys Asn Gly Leu Ile His Tyr Asn  
20 25 30  
Tyr Leu Arg Ile Tyr Tyr Ile Leu Ser Phe Lys Glu Ile Asn Cys Ile  
35 40 45  
Ile Ile Glu Arg Asn Ala Tyr Leu Cys Asn Glu Arg Asp Thr Ser Lys  
50 55 60

<210> 6990  
<211> 438  
<212> PRT  
<213> B.fragilis

<400> 6990  
Leu Tyr Gly Val Phe His Leu Leu Gln Phe Arg Phe Lys Val Met Leu  
1 5 10 15  
Ala Leu Leu Gln Thr Phe Gln His Arg Pro Arg Tyr Val Leu Ser Leu  
20 25 30  
Leu Ala Gln His Phe Glu Val Phe Leu His Arg Val Lys Leu Arg Leu  
35 40 45  
Gln Asp Ala Leu Leu Gln Leu Arg Arg Leu Arg Tyr Leu Ala Glu Leu  
50 55 60  
Val Val Arg His Asn Asp Thr Ile Val Val Val Leu Asp Val Val  
65 70 75 80  
Glu Glu Thr His Ala Val Gly Gly Arg Lys Val Phe Leu Arg Ser Val  
85 90 95  
Gln Asn Pro Arg Val Gly Ile Cys Arg Leu Ile Gly Gly Asn Leu  
100 105 110  
Arg Asn Ile Gly Phe Gln Pro Asp Asn His Arg Leu Val Arg Gln Val  
115 120 125  
Gln Thr Leu His Phe Met Arg Gly Asp Ala His Tyr Gln Arg Leu Ala  
130 135 140  
Gly Ser Asn Leu Val Val Thr Asn Ser Ala Ala Val Leu Phe Gln His  
145 150 155 160  
Pro Asp Ala Ile His Leu Arg Gly Ile Asp Ala Pro Asp Ala Pro Ala  
165 170 175  
Cys Gln Pro Phe Gln Ile Glu Val Gly Lys Ser Leu Met Arg Ala Val  
180 185 190

Ile Leu Arg Ala His Glu Thr Val Glu Leu Ala Val Ile His Arg Arg  
 195 200 205  
 Gln Pro Leu Leu Glu Leu Trp Arg Leu Leu Phe Glu Pro Phe Gly Glu  
 210 215 220  
 Ala Val Ser Tyr Leu Val Asn Leu Gly Val Gly Glu Leu Tyr Ser Leu  
 225 230 235 240  
 Ala Val Ala His Leu Asp Val Val Ala Met Leu Val Pro Ala Asp Gly  
 245 250 255  
 Leu His His Val Gly Thr Gly Val Val Gln Gly Val Phe Gln Lys Val  
 260 265 270  
 His Ala Val Ile Val Thr Val Ile Pro Leu His Gln Lys Leu Val Arg  
 275 280 285  
 Asp Phe His Gly Ala Val Ala Ala Arg His Arg Lys Leu Val His Ala  
 290 295 300  
 Cys Arg Val Gly Asp Phe His Leu Arg Val Glu Gln Pro Ala His Val  
 305 310 315 320  
 Gly Gly Ile Asp Thr Arg Arg Asn Pro Ala Phe Pro Glu Ile Glu Ile  
 325 330 335  
 Lys Val Phe Lys Ser Asp Ala Arg Arg Phe Gly Ile Phe Gln Ser Leu  
 340 345 350  
 Gln Arg Leu Leu His Leu Arg His Thr Phe Thr Phe Gly Val Phe Ala  
 355 360 365  
 His Pro Ser Leu Tyr Ala Phe Arg Phe Leu Tyr His Val Ser Gly Asn  
 370 375 380  
 Lys Ala Val Leu Asn Leu Val Thr Gly Tyr Glu Arg Ile Val Ile Asp  
 385 390 395 400  
 Ala Pro Leu Gln Gly Cys Glu Gln Ile Leu Arg Arg Thr Val Gly Tyr  
 405 410 415  
 Leu Pro His Ile Val Glu Ile Asp Ser Ala Glu Leu Val Glu Arg Arg  
 420 425 430  
 Gly Gln Cys Phe Phe Gly  
 435

&lt;210&gt; 6991

&lt;211&gt; 126

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6991

Ser Asn Gln Val Ser Thr Ala Arg Lys Arg Thr Ile His Pro Phe Asn  
 1 5 10 15  
 Gly Thr Lys Gln Glu Gln Phe Met Asn Lys Asn Ile Arg Gln Lys Leu  
 20 25 30  
 Ile Ile Ser Ala Ala Leu Met Ile Ala Ala Thr Ala Ser Ala Phe Ala  
 35 40 45  
 Gln Gly Asn Gly Leu Ala Gly Ile Asn Glu Ala Thr Ser Met Val Ser  
 50 55 60  
 Ser Tyr Phe Asp Pro Gly Thr Lys Leu Ile Tyr Ala Ile Gly Ala Val  
 65 70 75 80  
 Val Gly Leu Ile Gly Gly Val Lys Val Tyr Gly Lys Phe Ser Ser Gly  
 85 90 95  
 Asp Pro Asp Thr Ser Lys Thr Ala Ala Ser Trp Phe Gly Ala Cys Ile  
 100 105 110  
 Phe Leu Ile Val Ala Ala Thr Ile Leu Arg Ser Phe Phe Leu  
 115 120 125

&lt;210&gt; 6992

&lt;211&gt; 82

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6992

Lys	Leu	Lys	Val	Met	Ser	Glu	Ile	Ala	Ser	Arg	Val	Lys	Ala	Ile	Ile
1				5					10					15	
Val	Asp	Lys	Leu	Gly	Val	Glu	Glu	Ser	Glu	Val	Thr	Glu	Thr	Ala	Ser
				20				25					30		
Phe	Thr	Asn	Asp	Leu	Gly	Ala	Asp	Ser	Leu	Asp	Thr	Val	Glu	Leu	Ile
				35			40				45				
Met	Glu	Phe	Glu	Lys	Glu	Phe	Gly	Ile	Ser	Ile	Pro	Asp	Asp	Gln	Ala
	50				55					60					
Glu	Lys	Ile	Gly	Thr	Val	Gln	Asp	Ala	Val	Ala	Tyr	Ile	Glu	Glu	His
	65				70				75			80			
Ala	Lys														

&lt;210&gt; 6993

&lt;211&gt; 351

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6993

Leu	Phe	Ser	Phe	Lys	Tyr	Val	Ile	Phe	Asn	Lys	Lys	Arg	Ala	Ala	Met
1					5				10					15	
Lys	Ile	Gly	Ile	Leu	Thr	Ser	Gly	Gly	Asp	Cys	Pro	Gly	Ile	Asn	Ala
				20			25				30				
Thr	Ile	Arg	Gly	Val	Cys	Lys	Thr	Ala	Ile	Asn	His	Tyr	Gly	Met	Glu
				35			40				45				
Val	Val	Gly	Ile	His	Ser	Gly	Phe	Gln	Gly	Leu	Leu	Thr	Lys	Glu	Val
				50			55			60					
Glu	Ser	Phe	Thr	Glu	Lys	Ser	Leu	Ser	Gly	Leu	Leu	Asn	Leu	Gly	Gly
				65			70			75			80		
Thr	Met	Leu	Gly	Thr	Ser	Arg	Glu	Lys	Pro	Phe	Arg	Lys	Gln	Gly	Ile
				85			90				95				
Ile	Ser	Asp	Val	Asp	Lys	Pro	Ala	Leu	Ile	Gln	Arg	Asn	Ile	Ala	Glu
				100			105				110				
Leu	Gly	Leu	Asp	Cys	Val	Val	Cys	Ile	Gly	Gly	Asn	Gly	Thr	Gln	Lys
				115			120				125				
Thr	Ala	Ala	Lys	Phe	Ala	Ala	Met	Gly	Ile	Asn	Ile	Val	Ser	Val	Pro
				130			135			140					
Lys	Thr	Ile	Asp	Asn	Asp	Ile	Trp	Gly	Thr	Asp	Ile	Ser	Phe	Gly	Phe
				145			150			155			160		
Asp	Ser	Ala	Val	Ser	Ile	Ala	Thr	Asp	Ala	Ile	Asp	Arg	Leu	His	Ser
				165			170				175				
Thr	Ala	Ser	Ser	His	Lys	Arg	Val	Met	Val	Ile	Glu	Val	Met	Gly	His
				180			185				190				
Lys	Ala	Gly	Trp	Ile	Ala	Leu	Tyr	Ser	Gly	Met	Ala	Gly	Gly	Gly	Asp
				195			200			205					
Val	Ile	Leu	Val	Pro	Glu	Ile	Pro	Tyr	Asn	Ile	Lys	Asn	Ile	Gly	Asp
				210			215			220					
Thr	Ile	Leu	Asn	Arg	Leu	Lys	Lys	Gly	Lys	Pro	Tyr	Ser	Ile	Val	Val
				225			230			235			240		
Val	Ala	Glu	Gly	Ile	Gln	Thr	Asp	Gly	Arg	Lys	Arg	Ala	Ala	Glu	Tyr
				245			250				255				
Ile	Ala	Gln	Glu	Ile	Glu	Tyr	Glu	Thr	Gly	Ile	Glu	Thr	Arg	Glu	Thr
				260			265				270				
Val	Leu	Gly	Tyr	Ile	Gln	Arg	Gly	Gly	Ser	Pro	Thr	Pro	Phe	Asp	Arg
				275			280			285					
Asn	Leu	Ser	Thr	Arg	Met	Gly	Gly	His	Ala	Thr	Glu	Leu	Ile	Ala	Asn

290	295	300
Gly Gln Phe Gly Arg Met Ile Ala Leu Lys Gly Asp Glu Ile Ser Ser		
305	310	315
Val Ala Leu Glu Glu Val Ala Gly Lys Leu Lys Leu Val Thr Glu Glu		
	325	330
His Asp Leu Val Val Gln Gly Arg Arg Met Gly Ile Cys Phe Gly		
	340	345
		350

&lt;210&gt; 6994

&lt;211&gt; 391

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6994

Tyr Ser Leu Phe Tyr Leu Ile Leu Val Met Val Lys Lys Ile Leu Val		
1	5	10
Asp Lys Tyr Asp Leu Phe Val Leu Ser Ser Leu Ile His Tyr Leu Ile		
	20	25
Asn Leu Leu Tyr Met Cys Glu Ile Arg Phe Leu Leu Phe Ile Leu Phe		
	35	40
Met Gly Cys Leu Cys Ala Cys Gly Arg Val Asp Leu Lys Ser Pro Lys		
	50	55
Thr Leu Phe Ser Ser Val Ser Glu Ile Ser Glu Val Glu Trp Ser Ile		
	65	70
Glu Ala Asp Ser Leu Ala Arg Val Glu Gly Ile Gln Cys Asn Asp Ser		
	85	90
Val Leu Leu Val Phe Asp Phe Tyr Ser Gly Lys Ser Tyr Ser Leu Phe		
	100	105
Asp Ile Tyr Ser Gly Lys Met Ile Ser Arg Leu Gly Ser Ile Gly Gln		
	115	120
Gly Arg Asp Glu Ile Pro Leu Gly Val Phe Gly Tyr Ile Glu Asn Asn		
	130	135
Arg Phe Tyr Ile Tyr Tyr Asp Gln Thr Gly Tyr Ile Gly Lys Phe Asn		
	145	150
Leu Asp Ser Cys Ser Val Ile Leu Asp Cys Pro Pro Val Cys Leu Ala		
	165	170
Lys Tyr Lys Ile Pro Gly Ala Gln Ile Ser Lys Ile Ala Val Val Asn		
	180	185
Asp Ser Leu Phe Leu Gly Ala Gly Thr Tyr Asn Ala Glu Tyr Gln Tyr		
	195	200
Leu Leu Phe Asp Asn Lys Ser Asn Val Ile Asp Ser Ala Val Thr Ile		
	210	215
Tyr Asn Ser Asn Glu Ala Asn Leu Asn Ile Tyr His Lys Phe Leu Ser		
	225	230
Asn Gln Gly Arg Leu Arg Lys Arg Pro Gly Lys Ser Gln Phe Val Tyr		
	245	250
Ser Ile Asn Asn Ser Ser Asn Ile Asp Phe Phe Glu Ile Lys Asn Asn		
	260	265
Lys Ile Asn Leu Ile Lys Ser Leu Arg Phe Asn Asn Pro Glu Tyr Thr		
	275	280
Pro Thr Gln Asp Gly Asp Tyr Ser Arg Val Leu Phe Ser Asp Asn Asn		
	290	295
Val Ile Gly Tyr Ile Asp Ile Gly Val Thr Asp Lys Tyr Val Tyr Thr		
	305	310
Leu Tyr Thr Asn Lys Lys Ile Cys Asp Asn Asn Thr Tyr Asn Asp Leu		
	325	330
Ser Ser Thr Thr Val Leu Val Phe Asp Trp Asn Gly Asn Pro Val Lys		
	340	345
Gln Tyr Glu Leu Ser Lys Glu Ala Tyr Tyr Ile Thr Ile Asp Lys Thr		
		350

355	360	365
Leu Gln Arg Met Tyr Ala Val	Val Arg Lys Pro Asp	Met Gly Trp Thr
370	375	380
Ile Val Cys Tyr Ala Ile Asp		
385	390	

&lt;210&gt; 6995

&lt;211&gt; 207

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6995

Met Gln Ser Phe Ala His Phe Ser Leu Phe Cys Ala Leu Lys Gly Leu		
1	5	10
Ile Met Gly Lys Asn Ile Ala Ile Phe Ala Ser Gly Ser Gly Thr Asn		
20	25	30
Ala Glu Asn Ile Ile Arg Tyr Phe Glu Lys Asn Ala Ser Val Arg Val		
35	40	45
Arg Leu Val Leu Ser Asn Arg Lys Asp Ala Tyr Val Leu Glu Arg Ala		
50	55	60
Cys Arg Leu Gly Val Pro Tyr Arg Ala Phe Pro Lys Ser Asp Trp Glu		
65	70	75
Ala Ala Glu Ser Ile Leu Asp Leu Leu Arg Lys Tyr Gln Ile Asp Phe		
85	90	95
Ile Val Leu Ala Gly Phe Leu Leu Arg Ile Pro Asp Ala Leu Leu His		
100	105	110
Ala Tyr Pro Asp Lys Ile Ile Asn Ile His Pro Ala Leu Leu Pro Lys		
115	120	125
Phe Gly Gly Lys Gly Met Tyr Gly Asp Arg Val His Glu Ala Val Val		
130	135	140
Met Ala Gly Glu Ser Glu Ser Gly Ile Thr Ile His Tyr Ile Asp Glu		
145	150	155
His Tyr Asp Glu Gly Ser Thr Val Phe Gln Ala Lys Cys Pro Val Leu		
165	170	175
Pro Gly Asp Thr Pro Ala Asp Val Ala Lys Lys Val His Ala Leu Glu		
180	185	190
Tyr Glu Trp Phe Pro Lys Ile Ile Glu Arg Val Val Asn Ser Leu		
195	200	205

&lt;210&gt; 6996

&lt;211&gt; 80

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 6996

Pro Val Leu Ser Phe Gln Phe Ala Cys Tyr Leu Leu Ala Pro Val Lys		
1	5	10
Ile Val Pro Gly Val Tyr Ala Pro Ala Ile Leu Val His Pro Asp Arg		
20	25	30
His Asn Met Gln Met Val Ala Val Asp Val Leu Val Leu Asn Glu		
35	40	45
Ile Arg Leu Val Ala Glu Ala His Leu Leu Gln Ile Leu Pro Cys Asp		
50	55	60
Ile Leu Lys Leu Arg Val Arg Gln Asn Ile Val Gly Met Arg Ile Glu		
65	70	75
		80

&lt;210&gt; 6997

&lt;211&gt; 111

&lt;212&gt; PRT

<213> B.*fragilis*

<400> 6997

Ser	Tyr	Tyr	Ser	Pro	Thr	Glu	Ser	Lys	Val	Met	Met	Asn	Glu	Asn	Asn		
1															15		
Asp	Val	Phe	Thr	Leu	Glu	Asn	Glu	Pro	Leu	Ala	Thr	Val	Val	Gln	Asn		
														20	25	30	
Met	Arg	Lys	Gly	Ser	Lys	Trp	Leu	Ser	Thr	Phe	Leu	Glu	Ser	Tyr	Arg		
														35	40	45	
Pro	Pro	Leu	Asp	Gly	Glu	Arg	Tyr	Leu	Thr	Asp	Arg	Glu	Val	Ala	Glu		
														50	55	60	
Leu	Leu	Arg	Val	Ser	Arg	Arg	Thr	Leu	Gln	Glu	Tyr	Arg	Asn	Asn	Arg		
														65	70	75	80
Val	Leu	Pro	Phe	Ile	Leu	Leu	Gly	Gly	Lys	Val	Leu	Tyr	Pro	Glu	Ser		
														85	90	95	
Gly	Leu	Arg	Glu	Leu	Leu	Glu	Ala	Asn	Tyr	Arg	Lys	Pro	Leu	Glu			
														100	105	110	

<210> 6998

<211> 68

<212> PRT

<213> B.*fragilis*

<400> 6998

<210> 6999

<211> 217

<212> PRT

<213> B.*fragilis*

<400> 6999

His	Pro	Gly	Ile	Gly	Ser	Gly	Ile	Gly	Phe	Leu	Val	Glu	Gly	Asn	
1							5					10		15	
Cys	His	Glu	Lys	Lys	Lys	Leu	Ala	Asn	Ile	Leu	Asn	Pro	Gly	Gln	Pro
							20					25		30	
Asn	Arg	Leu	Val	Leu	Gln	Tyr	Ile	Phe	Cys	Leu	Lys	Asp	Met	Lys	Pro
							35					40		45	
Glu	Glu	Ile	Asn	Gly	His	Gln	Val	Gly	Thr	His	Ser	Ile	Leu	Val	Arg
							50					55		60	
Lys	Trp	Glu	Ala	Ser	Ala	Trp	Ser	Cys	His	Pro	Glu	Thr	Lys	Thr	Gln
							65					70		75	
Gln	Cys	Asp	Leu	Asp	Leu	Trp	Glu	Gly	Glu	Asn	Thr	Tyr	Arg	Cys	Ile
							85					90		95	
Leu	Thr	Asn	Asp	Tyr	Lys	Ser	Ser	Thr	Arg	Asp	Ile	Val	Glu	Phe	Tyr
							100					105		110	
Asn	Leu	Arg	Gly	Gly	Lys	Glu	Arg	Ile	Phe	Asp	Asp	Met	Asn	Asn	Gly
							115					120		125	
Phe	Gly	Trp	Ser	Arg	Leu	Pro	Lys	Ser	Phe	Met	Ala	Glu	Asn	Thr	Val
							130					135		140	

Phe Leu Leu Leu Thr Ala Leu Ile His Asn Phe Tyr Lys Thr Ile Met  
 145 150 155 160  
 Ser Arg Leu Asp Thr Lys Ala Phe Gly Leu Lys Lys Thr Ser Arg Ile  
 165 170 175  
 Lys Ala Phe Val Phe Arg Phe Ile Ser Val Pro Ala Lys Trp Ile Met  
 180 185 190  
 Thr Ala Arg Gln Tyr Val Leu Asn Ile Tyr Thr Glu Asn Arg Ala Tyr  
 195 200 205  
 Ala Lys Pro Phe Lys Thr Glu Phe Gly  
 210 215

&lt;210&gt; 7000

&lt;211&gt; 599

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7000

Leu Met Lys Pro Gly Arg Pro Leu Ser Glu Pro Ile Leu Arg Arg Lys  
 1 5 10 15  
 Lys Pro Gly Asn Gly Thr Ile Thr Asp Ile Asn Gly Asn Phe Ser Leu  
 20 25 30  
 Ser Val Gly Thr Lys Ser Thr Ile Ile Ser Tyr Ile Gly Tyr Ile  
 35 40 45  
 Thr Lys Glu Val Pro Val Gly Asn Asn Thr Ser Leu Thr Val Gln Leu  
 50 55 60  
 Ala Glu Asn Thr Lys Gln Leu Asp Glu Val Val Val Thr Ala Leu Gly  
 65 70 75 80  
 Ile Lys Arg Glu Glu Lys Ala Leu Gly Tyr Ala Val Gln Lys Val Asp  
 85 90 95  
 Gly Asp Lys Leu Ala Ala Val Lys Thr Val Asn Val Ala Thr Ser Leu  
 100 105 110  
 Thr Gly Lys Ile Ala Gly Leu Asn Val Lys Asn Ser Thr Glu Phe Asn  
 115 120 125  
 Thr Ser Pro Ser Leu Ser Leu Arg Ala Ser Ala Pro Leu Leu Val Ile  
 130 135 140  
 Asp Gly Val Pro Tyr Gly Asn Val Gly Leu Asn Asp Ile Ala Ala Asp  
 145 150 155 160  
 Asp Ile Glu Ser Val Asp Val Leu Lys Gly Ala Thr Ala Ser Ala Leu  
 165 170 175  
 Tyr Gly Ala Arg Gly Gly Ala Gly Ala Val Met Ile Thr Thr Lys Lys  
 180 185 190  
 Gly Lys Glu Glu Gly Leu Asn Val Thr Val Asn Ser Ser Thr Met Phe  
 195 200 205  
 Ala Ala Gly Tyr Leu Arg Lys Pro Glu Val Gln Thr Ser Tyr Ser Ser  
 210 215 220  
 Gly Ser Gln Gly Thr Tyr Ser Thr Gly Gly Tyr Val Trp Gly Asp Lys  
 225 230 235 240  
 Leu Asp Ile Gly Arg Thr Ala Leu Gln Tyr Asp Pro Tyr Thr His Glu  
 245 250 255  
 Trp Val Asp Met Pro Leu Val Ser Lys Gly Lys Asn Asn Leu Lys Asn  
 260 265 270  
 Phe Gln Glu Leu Ser Met Val Thr Asn Asn Asn Val Ser Val Ser Gln  
 275 280 285  
 Lys Gly Lys Tyr Gly Ser Val Arg Thr Ser Leu Thr His Val Tyr Asn  
 290 295 300  
 Lys Gly Gln Tyr Pro Asn Gln Lys Leu Asn Lys Ile Thr Tyr Ser Val  
 305 310 315 320  
 Ser Gly Asp Met Lys Trp Lys Lys Phe Ser Phe Asp Gly Gly Leu Thr  
 325 330 335

Tyr Asn Lys Arg Phe Tyr Pro Asn Asp Met Gly Ala Gly Tyr Gly Gly  
 340 345 350  
 Ser Gly Phe Leu Tyr Asn Leu Leu Val Trp Ser Gly Ala Glu Tyr Asp  
 355 360 365  
 Ile Arg Asp Tyr Lys Asn Tyr Trp Ile Lys Gln Asp Glu Gln Gln Asn  
 370 375 380  
 Trp Met Asn Asp Val Trp Tyr Asp Asn Pro Tyr Tyr Leu Ala His Glu  
 385 390 395 400  
 Met Thr Ser Ser Asn Asp Tyr Asp Lys Val Asn Thr Tyr Leu Ser Gly  
 405 410 415  
 Lys Tyr Asp Ile Met Pro Trp Leu Asn Phe Ser Met Arg Ala Gly Ala  
 420 425 430  
 Asp Ala Tyr Ala Ser Arg Thr Glu Lys Lys Asn Ala Met Ser Ala Arg  
 435 440 445  
 Gly Gly Trp Asp Lys Asn Gly Tyr Phe Tyr Thr Ser Lys Ser Thr Gly  
 450 455 460  
 Phe Ser Phe Asn Gly Asp Ala Leu Leu Ser Ala Asn His Ser Phe Gly  
 465 470 475 480  
 Asp Phe Ala Ile Asp Gly Phe Val Gly Gly Thr Ile Tyr Tyr Tyr Tyr  
 485 490 495  
 Asp Asp Ala Ile Ser Ser Asn Thr Arg Asn Gly Leu Ser Ile Pro Gly  
 500 505 510  
 Tyr Tyr Ser Leu Lys Ala Ser Val Asp Pro Ile Ala Ser Ser Ser Ser  
 515 520 525  
 Tyr Lys Gln Lys Gln Val Asn Ser Ile Tyr Gly Lys Phe Ser Ala Ser  
 530 535 540  
 Trp Lys Ser Thr Val Phe Val Asp Val Thr Ala Arg Asn Asp Trp Ser  
 545 550 555 560  
 Ser Thr Leu Pro Ser Glu Thr Arg Ser Tyr Phe Tyr Pro Ala Val Ser  
 565 570 575  
 Gly Ser Ile Ile Met Ser Gln Leu Leu Lys Met Pro Glu Ser Ser Pro  
 580 585 590  
 Arg Gly Trp Lys Asp Arg Arg  
 595

&lt;210&gt; 7001

&lt;211&gt; 96

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7001

Asn His Phe Tyr Tyr Tyr Asp Ser Thr Leu Ser Leu Lys Gln Lys  
 1 5 10 15  
 Asn Ile Gln Glu Asp Ile Gly Val Ser Thr Cys Met Lys Val His Arg  
 20 25 30  
 Gln Phe Val Trp Arg Gln Thr Val Arg Gln Ile Glu Phe Phe Lys Ser  
 35 40 45  
 Lys Ser Leu Gln Ile Tyr Asp Asn Leu Leu Lys Leu Pro Ile Phe Arg  
 50 55 60  
 Glu Ala Glu Tyr Ile Phe Ala Leu Glu Lys Asn Thr Phe Val Tyr Glu  
 65 70 75 80  
 Thr Ile Ser Asn Asn Val Val Cys Leu Cys Gln His Gly Ile Cys Gly  
 85 90 95

&lt;210&gt; 7002

&lt;211&gt; 137

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7002

Asn	Phe	Leu	Asn	Gln	Asn	His	Tyr	Lys	Ser	Met	Thr	Ile	Tyr	Leu	Asn
1				5				10						15	
Phe	Gln	Phe	Phe	Gly	Arg	Gln	Asn	Thr	Phe	Ser	Leu	Leu	Lys	Lys	Ile
			20					25					30		
Pro	Leu	Cys	Met	Lys	Leu	Ser	Ala	Ile	Met	Leu	Phe	Val	Phe	Ala	Ser
			35					40					45		
Met	Ala	Phe	Ala	Ala	Lys	Gly	Tyr	Ser	Gln	Ser	Val	Arg	Val	Thr	Leu
			50					55			60				
Asn	Val	Asn	Asn	Ser	Ser	Leu	Gln	Lys	Val	Leu	Asp	Glu	Ile	Glu	Lys
			65					70			75		80		
Gln	Ser	Glu	Phe	His	Phe	Tyr	Asn	Asn	Lys	Gln	Val	Asp	Ile	Ser	
				85					90			95			
Arg	Asn	Val	Thr	Ile	Lys	Ser	Asn	Gln	Lys	Glu	Ile	Ser	Gln	Val	Leu
			100					105			110				
Asn	Gln	Leu	Phe	Ala	Gly	Thr	Asn	Ile	Gly	Tyr	Lys	Ile	Leu	Glu	Asn
			115					120			125				
Ser	Ile	Ile	Leu	Cys	Pro	Lys	His	Ile							
			130					135							

&lt;210&gt; 7003

&lt;211&gt; 406

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7003

Glu	Thr	Met	Leu	Arg	Met	Arg	Leu	Arg	Phe	Pro	Ala	Glu	Pro	Gly	Arg
1				5				10				15			
Thr	Glu	Phe	His	Arg	Leu	Leu	Cys	Ala	Arg	Cys	Arg	Tyr	Thr	Cys	Arg
					20				25			30			
Pro	Ser	Phe	Trp	Ala	Lys	Ile	Ile	Leu	Phe	Ser	Lys	Lys	Ile	Arg	Phe
				35				40			45				
Leu	Val	Arg	Arg	Phe	Leu	Phe	Trp	Phe	Val	Leu	Ser	Ile	Lys	Ala	Arg
			50					55			60				
Ile	Met	Asp	Glu	Ser	Cys	Tyr	Ile	Asn	Glu	Ser	Val	Leu	Leu	Asn	Tyr
			65					70			75		80		
Phe	Ala	Gly	Glu	Leu	Pro	Ala	Asp	Arg	Arg	Lys	Glu	Val	Glu	Glu	Trp
				85					90			95			
Ile	Ala	Ala	Ser	Glu	Asp	Asn	Glu	Lys	Met	Ala	Arg	Asp	Ile	Phe	Arg
			100					105			110				
Leu	Tyr	Arg	Ala	Ala	Asp	Thr	Leu	Asp	Tyr	Met	Asn	Arg	Val	Asp	Ala
			115					120			125				
Ser	Ala	Ala	Leu	Gln	Gln	Val	Lys	Gly	Arg	Ile	His	Lys	His	Arg	His
			130					135			140				
Arg	Ile	Ser	Trp	Met	Val	Trp	Gly	Gln	Arg	Ile	Ala	Ala	Cys	Met	Ala
			145					150			155		160		
Leu	Pro	Leu	Leu	Ala	Thr	Thr	Leu	Tyr	Leu	Ile	Leu	Lys	Asn	Pro	Pro
				165					170			175			
Gln	Glu	Tyr	Val	Glu	Ile	Arg	Thr	Asn	Pro	Gly	Met	Val	Ala	Glu	Ala
			180					185			190				
Asn	Leu	Pro	Asp	Gly	Thr	Lys	Val	Trp	Leu	Asn	Ser	Gly	Ser	Ser	Leu
			195					200			205				
Lys	His	Pro	Val	Lys	Phe	Thr	Gly	Asp	Thr	Arg	Thr	Val	Glu	Leu	Asp
			210					215			220				
Gly	Glu	Ala	Tyr	Phe	Ser	Val	Arg	Lys	Asp	Arg	Ser	Lys	Arg	Phe	Val
			225					230			235		240		
Val	Asn	Thr	Pro	Phe	Asn	Ile	Gln	Thr	Glu	Val	Leu	Gly	Thr	Glu	Phe
				245					250			255			
Asn	Met	Glu	Ala	Tyr	Arg	Thr	Asp	Ser	Val	Val	Arg	Thr	Thr	Leu	Val

260	265	270
Ser Gly Ser Val Arg Leu Ser Phe	Leu Gly Lys Gly Asp Thr Lys Glu	
275	280	285
Thr Phe Val Met Lys Pro Asp Glu	Glu Phe Val Tyr Asn Thr Ala Thr	
290	295	300
His Glu Ala Arg Ala Glu Lys Ser	Tyr Val Glu Ile Tyr Thr Ala Trp	
305	310	315
Lys Asn Gly Gln Val Val Leu Lys Asn Thr Ser	Leu Ala Glu Thr Leu	320
325	330	335
Lys Ile Leu Ser Lys Arg Phe Asn Val	Glu Phe Ile Val Lys Asp Ser	
340	345	350
Thr Leu Tyr Ala Asn Ser Phe	Thr Gly Val Phe Ser Arg Gln Tyr Leu	
355	360	365
Pro Leu Ile Leu Glu His Phe Arg	Tyr Ala Ser Gly Ile Gln Tyr Lys	
370	375	380
Tyr Leu Asp Leu Glu Tyr Asp Ala Thr His	Lys Ala Ile Gln Glu Lys	
385	390	395
Thr Lys Ile Glu Leu Tyr		400
		405

&lt;210&gt; 7004

&lt;211&gt; 93

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7004

Lys Leu Thr Met Gln Glu Glu Val	Met Ile Tyr Ile Trp Glu Leu		
1	5	10	15
Glu Ser Cys Tyr Val Lys Asp Ile Val	Ala Lys Phe Glu Gln Pro Thr		
20	25	30	
Pro Pro Tyr Thr Thr Val Ala Ser	Ile Val Lys Asn Leu Glu Arg Lys		
35	40	45	
Lys Tyr Val Pro Cys Gln Thr Ile Arg	His Pro Gly Val Arg Tyr Arg		
50	55	60	
Met Leu Leu Pro Asn Val Arg Lys Asp	Lys Glu Ile Cys Asn Glu Thr		
65	70	75	80
Lys Asn Cys Phe Val Leu Ser Met Gln	Glu Glu Arg Lys		
85	90		

&lt;210&gt; 7005

&lt;211&gt; 212

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7005

Pro Lys Asn Val Phe Phe Leu Lys	Ile Ile Leu Phe Leu Pro Lys Thr		
1	5	10	15
Lys Val Tyr Met Tyr Asn Asp Thr	Ser Arg Thr Val Ser Asp Glu Thr		
20	25	30	
Leu Phe Phe Gln Val Gln Gln	Gly Asn Glu Gly Ala Phe Glu Ala Leu		
35	40	45	
Phe Leu Arg His Tyr Pro Ala	Cys Ala Tyr Ala Arg Leu Phe Val		
50	55	60	
Glu Pro Asp Asp Gly Gln	Glu Ile Val Ser Asp Val Met Val Trp Leu		
65	70	75	80
Trp Glu Asn Lys Glu Met Gln Ala	Phe Glu Ser Ser Leu Lys Ser Tyr		
85	90	95	
Leu Phe Lys Ala Val Lys Asn Arg	Cys Leu Thr Leu Ile Asn Arg Asn		
100	105	110	

Glu Val Lys Gln Arg Ile Glu Lys Met Ile Phe Asp Asn Leu Gln Ser  
     115              120              125  
 Gln Tyr Asp Asp Pro Asp Phe Tyr Ala Ile Gln Glu Leu Thr Glu Lys  
     130              135              140  
 Ile Glu Glu Ala Leu Ala Arg Leu Pro Glu Asn Val Arg Glu Ala Phe  
     145              150              155              160  
 Glu Leu Asn Arg Phe Gln Asn Leu Thr Tyr Asn Glu Ile Ala Glu Arg  
     165              170              175  
 Leu Gly Val Ser Pro Lys Thr Ile Asp Tyr Arg Ile Gln Gln Ala Leu  
     180              185              190  
 Lys Gln Leu Arg Ile Asp Leu Lys Glu Tyr Leu Pro Leu Leu Pro  
     195              200              205  
 Phe Leu Leu His  
     210

&lt;210&gt; 7006

&lt;211&gt; 67

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7006

Ser Phe Gln Pro Arg Gly Glu Asp His Tyr Trp Ile Ser Ser Asn Ala  
   1              5              10              15  
 Gly Leu Ile Thr Ile Asn Pro Ile Thr Lys Gln His Phe Arg Gln Phe  
   20              25              30  
 Thr Val Asn Asp Gly Leu Gln Gly Asn Gln Phe Thr Ala Gln Ser Ser  
   35              40              45  
 Leu Lys Thr Ala Ser Gly Lys Leu Tyr Phe Gly Gly Ile Ser Gly Phe  
   50              55              60  
 Asn Ser Val  
   65

&lt;210&gt; 7007

&lt;211&gt; 129

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7007

Leu Phe Arg Leu Cys Cys Thr Phe Met Gln Met Lys Lys Ser Asn Ile  
   1              5              10              15  
 Tyr Ile Gly Glu Ile Ile Lys Asn Val Met Ser Glu Arg Gln Val Thr  
   20              25              30  
 Lys Ala Glu Leu Ala Arg Arg Leu Asp Val Lys Pro Gln Ser Val Asp  
   35              40              45  
 Tyr Leu Leu Thr Arg Lys Ser Ile Asp Thr Asp Thr Leu Tyr Asn Ile  
   50              55              60  
 Ser Ile Ala Leu Asp Tyr Asp Phe Ser Leu Leu Tyr Ser Ile Lys Arg  
   65              70              75              80  
 Glu Gln Arg Asn Ser Asp Asn Glu Gly Ile Arg Tyr Lys Leu Gly Asn  
   85              90              95  
 Ala Lys Ile Met Val Glu Ile Glu Leu Gln Gln Asp Glu Ile Ile Lys  
   100            105            110  
 Leu Asn Leu Lys Lys Lys Ile Ala Glu Leu Leu Asp Gly Gly Ala Asn  
   115            120            125  
 Lys

&lt;210&gt; 7008

&lt;211&gt; 77

<212> PRT  
<213> B.fragilis

&lt;400&gt; 7008

His	Arg	Lys	Thr	Ser	Pro	Ile	Leu	Pro	Thr	Lys	Ala	Arg	Pro	Tyr	Asp
1															
														15	
Phe	Asn	Thr	Ala	Asp	Lys	Leu	Asn	Thr	Leu	Leu	Ile	Asn	Ala	Leu	Val
														30	
Ser	Thr	Gly	Glu	Leu	Lys	Glu	Ile	Glu	Glu	Tyr	Asp	Val	Asp	Phe	Asp
														45	
His	Gln	Phe	Leu	Glu	Thr	Glu	Lys	Tyr	Asp	Gly	Lys	Thr	Asp	Leu	Gln
														60	
Lys	Val	Pro	Arg	Leu	Gln	Ala	Trp	Arg	Ile	Cys	Tyr	Arg			
														75	

&lt;210&gt; 7009

&lt;211&gt; 115

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7009

Tyr	Asp	Met	Ala	Lys	Ile	Gln	Ile	Lys	Ser	Glu	Lys	Leu	Thr	Pro	Phe
1															
														15	
Gly	Gly	Ile	Phe	Ser	Ile	Met	Glu	Lys	Phe	Asp	Ser	Met	Leu	Ser	Pro
														30	
Val	Ile	Asp	Ser	Thr	Leu	Gly	Gln	Arg	Cys	Ser	Ser	Ile	Phe	Gly	Tyr
														45	
Gln	Phe	Ser	Glu	Ile	Val	Arg	Ser	Leu	Met	Ser	Val	Tyr	Phe	Cys	Gly
														60	
Gly	Ser	Cys	Val	Glu	Asp	Val	Thr	Ser	Gln	Leu	Met	Arg	His	Leu	Ser
														80	
Tyr	His	Pro	Thr	Leu	Arg	Thr	Cys	Ser	Ser	Asp	Thr	Ile	Leu	Arg	Ala
														95	
Ile	Lys	Glu	Leu	Thr	Gln	Glu	Asn	Ile	Ser	Tyr	Thr	Ser	Asp	Gln	Gly
														110	
Lys	Thr	Leu													
															115

&lt;210&gt; 7010

&lt;211&gt; 83

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7010

Val	Pro	Glu	Gln	Gln	Lys	Val	Ala	Gln	Asp	Phe	Ala	Met	Ser	Glu	Phe
1															
														15	
Ser	Leu	Ile	Leu	Val	Leu	Gln	Lys	Glu	Asn	Lys	Gln	Asn	Ser	Asn	Met
														30	
Thr	Trp	Gln	Lys	Tyr	Lys	Leu	Asn	Leu	Arg	Asn	Ser	His	Leu	Leu	Glu
														45	
Glu	Phe	Phe	Gln	Ser	Trp	Arg	Asn	Leu	Thr	Pro	Cys	Phe	His	Pro	Leu
														60	
Ser	Thr	Gln	His	Trp	Val	Arg	Asp	Ala	Ala	Val	Ser	Ser	Asp	Ile	Ser
														80	
Ser	Ala	Arg													

&lt;210&gt; 7011

&lt;211&gt; 725

<212> PRT  
 <213> B.fragilis

&lt;400&gt; 7011

Phe Leu Leu Asn His Ile Met Lys Asn Met Lys Lys Leu Thr Phe Lys  
 1 5 10 15  
 Leu Ala Cys Phe Phe Leu Ser Leu Leu Val Ser Ser Val Ala Met Ala  
 20 25 30  
 Glu Ser Ile Thr Ser Pro Asn Gly Leu Leu Lys Leu Asn Val Ser Val  
 35 40 45  
 Asn Glu Lys Gly Glu Pro Val Tyr Glu Leu Ser Tyr Lys Gly Lys Glu  
 50 55 60  
 Val Ile Lys Pro Ser Lys Leu Gly Leu Glu Leu Lys Asp Asp Pro Gly  
 65 70 75 80  
 Leu Met Asp Gly Phe Thr Leu Ser Asp Ala Lys Thr Ser Ser Phe Asp  
 85 90 95  
 Glu Thr Trp Glu Pro Val Trp Gly Glu Val Lys Gln Ile Arg Asn Asn  
 100 105 110  
 Tyr Asn Glu Leu Ala Ile Thr Leu Asp Gln Lys Ala Gln Asp Arg Lys  
 115 120 125  
 Met Val Ile Arg Phe Arg Leu Tyr Asn Asp Gly Leu Gly Phe Arg Tyr  
 130 135 140  
 Glu Phe Pro Gln Gln Lys Asn Leu Asn Tyr Phe Val Ile Lys Glu Glu  
 145 150 155 160  
 His Ser Gln Phe Ala Met Ala Gly Asp His Thr Ala Phe Trp Ile Pro  
 165 170 175  
 Gly Asp Tyr Asp Thr Gln Glu Tyr Asp Tyr Thr Arg Ser Lys Leu Ser  
 180 185 190  
 Glu Ile Arg Gly Leu Met Lys Thr Ala Val Thr Pro Asn Ala Ser Gln  
 195 200 205  
 Thr Pro Phe Ser Pro Thr Gly Val Gln Thr Ala Leu Gln Met Lys Thr  
 210 215 220  
 Asp Asp Gly Leu Tyr Ile Asn Leu His Glu Ala Ala Leu Val Asp Tyr  
 225 230 235 240  
 Ser Cys Met His Leu Asn Leu Asp Asp Lys Asn Phe Val Phe Glu Ser  
 245 250 255  
 Trp Leu Thr Pro Asp Ala Gln Gly Thr Lys Gly Tyr Met Gln Thr Pro  
 260 265 270  
 Cys His Ser Pro Trp Arg Thr Val Met Val Ser Asp Asp Ala Arg Asp  
 275 280 285  
 Ile Leu Ala Ser Lys Leu Thr Leu Asn Leu Asn Glu Pro Cys Lys Leu  
 290 295 300  
 Glu Asp Thr Ser Trp Ile Lys Pro Val Lys Tyr Val Gly Val Trp Trp  
 305 310 315 320  
 Glu Met Ile Thr Gly Lys Ser Thr Trp Ala Tyr Thr Asp Asp Val Tyr  
 325 330 335  
 Ser Val Lys Leu Gly Glu Thr Asp Tyr Thr Lys Thr Lys Pro Asn Gly  
 340 345 350  
 Arg His Gly Ala Asn Asn Glu Asn Val Lys Arg Tyr Ile Asp Phe Ala  
 355 360 365  
 Ala Glu His Gly Phe Asp Gln Val Leu Val Glu Gly Trp Asn Glu Gly  
 370 375 380  
 Trp Glu Asp Trp Phe Gly Lys Ser Lys Asp Tyr Val Phe Asp Phe Val  
 385 390 395 400  
 Thr Pro Tyr Pro Asp Phe Asp Val Lys Met Leu Asn Glu Tyr Ala Arg  
 405 410 415  
 Ser Lys Gly Val Lys Leu Met Met His His Glu Thr Ser Ala Ser Val  
 420 425 430  
 Arg Asn Tyr Glu Arg His Met Asp Glu Ala Tyr Gln Phe Met Glu Asp

435	440	445
Asn Gly Tyr Asn Ala Val Lys Ser Gly Tyr Val Gly Asn Ile Ile Pro		
450	455	460
Arg Gly Glu His His Tyr Gly Gln Trp Leu Asn Asn His Tyr Leu Tyr		
465	470	475
Ala Val Lys Lys Ala Ala Asp His Lys Ile Met Val Asn Ala His Glu		
485	490	495
Ala Val Arg Pro Thr Gly Leu Cys Arg Thr Tyr Pro Asn Leu Ile Gly		
500	505	510
Asn Glu Ser Ala Arg Gly Thr Glu Tyr Glu Ala Phe Gly Gly Asn Lys		
515	520	525
Pro Phe His Thr Thr Leu Leu Pro Phe Thr Arg Leu Ile Gly Gly Pro		
530	535	540
Met Asp Tyr Thr Pro Gly Ile Phe Asp Thr Gln Leu Ser Phe Leu Ser		
545	550	555
Gly Glu His Ser Phe Val His Thr Thr Leu Ala Lys Gln Leu Ala Leu		
565	570	575
Tyr Val Thr Leu Tyr Ser Pro Leu Gln Met Ala Ala Asp Leu Pro Glu		
580	585	590
Ser Tyr Glu Arg Tyr Met Asp Ala Phe Gln Phe Ile Lys Asp Val Ala		
595	600	605
Val Asp Trp Asp Glu Ser Lys Tyr Ile Glu Ala Glu Pro Gly Glu Tyr		
610	615	620
Ile Thr Val Ala Arg Lys Ala Lys Asn Thr Asn Asn Trp Phe Val Gly		
625	630	635
Gly Ile Thr Gly Glu Asn Ala Arg Thr Ser Thr Phe Val Leu Asp Phe		
645	650	655
Leu Glu Pro Gly Lys Gln Tyr Val Ala Thr Leu Tyr Ala Asp Gly Lys		
660	665	670
Asp Ala Asp Tyr Glu Lys Asn Pro Thr Ser Tyr Gln Ile Lys Lys Gly		
675	680	685
Leu Val Thr Tyr Lys Thr Lys Ile Ser Thr Asp Leu Ala Arg Ser Gly		
690	695	700
Gly Phe Ala Ile Ser Leu Ile Glu Ala Thr Pro Ala Asp Lys Lys Ala		
705	710	715
Leu Lys Lys Trp Lys		
725		

&lt;210&gt; 7012

&lt;211&gt; 113

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7012

Arg Lys Leu Arg Asn Thr Met Leu Thr Leu Thr Ile Ser Ser Leu Lys		
1	5	10
Arg Arg Ser Met Met Ala Lys Pro Thr Tyr Lys Lys Phe Leu Gly Tyr		
20	25	30
Arg Pro Gly Val Tyr Val Ile Gly Asp Lys Asn Val Tyr Ile Glu Asn		
35	40	45
Ser Glu Gly Asn Pro Ile Val Arg Phe His Ser Ala Asp Thr His Lys		
50	55	60
Lys Ile Phe Ala Leu Leu Glu Ser Gln Asn Asn Pro Val Lys Arg Phe		
65	70	75
Arg Gly Lys Arg Gly Phe Pro Leu Gln Arg Lys Ile Ser Val Lys Lys		
85	90	95
Arg Lys Leu Cys Lys Leu Phe Tyr Ile Pro Ala Asn Pro Arg His Leu		
100	105	110
Val		

<210> 7013  
<211> 628  
<212> PRT  
<213> B.fragilis

<400> 7013

Ile	Thr	Pro	Ser	Phe	Tyr	Phe	Met	Ala	Ile	Thr	Ile	Ile	Ile	Leu	Val
1				5					10					15	
Leu	Ser	Ala	Val	Phe	Phe	Met	Ser	Gly	Lys	Val	Arg	Ser	Asp	Leu	Val
						20			25					30	
Ala	Leu	Cys	Ala	Leu	Val	Leu	Leu	Ile	Leu	Phe	Asn	Ile	Leu	Thr	Pro
								35		40			45		
Glu	Glu	Ala	Leu	Ser	Gly	Phe	Ser	Asn	Ser	Val	Val	Ile	Met	Met	Val
								50		55			60		
Gly	Leu	Phe	Val	Val	Gly	Gly	Ala	Ile	Phe	Gln	Thr	Gly	Leu	Ala	Lys
							65		70		75		80		
Met	Ile	Ser	Ser	Arg	Ile	Leu	Lys	Phe	Ala	Gly	Thr	Ser	Glu	Leu	Lys
							85			90			95		
Leu	Phe	Ile	Leu	Ile	Ile	Leu	Val	Thr	Ala	Ala	Ile	Gly	Ala	Phe	Val
							100			105			110		
Ser	Asn	Thr	Gly	Thr	Val	Ala	Leu	Met	Leu	Pro	Ile	Val	Val	Ser	Met
							115		120			125			
Ala	Met	Ser	Ala	Asn	Ile	Asn	Val	Ser	Arg	Leu	Leu	Met	Pro	Leu	Ala
							130		135			140			
Phe	Ala	Ser	Ser	Met	Gly	Gly	Met	Met	Thr	Leu	Ile	Gly	Thr	Pro	Pro
							145		150			155			160
Asn	Leu	Val	Ile	Gln	Asn	Ala	Leu	Ile	Glu	Ala	Gly	Tyr	Glu	Arg	Leu
							165			170			175		
Ser	Phe	Phe	Thr	Phe	Thr	Pro	Val	Gly	Leu	Val	Cys	Val	Thr	Val	Gly
							180			185			190		
Leu	Ile	Val	Leu	Ile	Pro	Leu	Ser	Lys	Ile	Phe	Leu	Thr	Lys	Lys	Ser
							195			200			205		
Asp	Lys	Glu	Ala	Arg	Gly	Lys	Arg	Lys	Asn	Lys	Ser	Leu	Gln	Glu	Leu
							210			215			220		
Ala	Gly	Glu	Tyr	Gln	Leu	Ser	Gln	Asn	Leu	Tyr	Arg	Val	Glu	Val	Glu
							225			230			235		240
Glu	Ser	Ser	Gly	Phe	Val	Gly	Lys	Thr	Ile	Gln	Glu	Leu	Gly	Ile	Pro
							245			250			255		
Gln	Arg	Tyr	His	Val	Thr	Ile	Leu	Glu	Val	Arg	Arg	Arg	Ser	Val	Ser
							260			265			270		
Ser	Arg	His	Phe	Phe	Lys	Thr	Lys	Gln	Glu	Met	Ala	Glu	Ala	Gly	
							275			280			285		
Thr	Leu	Ile	Glu	Ala	Glu	Asp	Ile	Leu	Tyr	Val	Leu	Gly	Glu	Phe	Glu
							290			295			300		
Asn	Val	Lys	Arg	Phe	Ala	Gly	Glu	Asn	Arg	Leu	Ser	Leu	Leu	Asp	Thr
							305			310			315		320
His	Lys	Thr	Glu	Gly	Ser	Leu	His	Asp	Thr	Asp	Glu	Gly	Phe	Asp	Phe
							325			330			335		
Gln	Glu	Ile	Gly	Ile	Ala	Glu	Ile	Leu	Leu	Leu	Pro	Thr	Ala	Asn	Leu
							340			345			350		
Ile	Asn	Lys	Pro	Val	Lys	Ala	Ser	Gly	Phe	Arg	Glu	Asn	Tyr	Ser	Ile
							355			360			365		
Asn	Ile	Leu	Gly	Ile	Gln	Arg	Lys	Arg	Asp	Tyr	Leu	Leu	Lys	Asn	Leu
							370			375			380		
Lys	Asp	Glu	Lys	Met	His	Ser	Gly	Asp	Ile	Leu	Leu	Val	Gln	Gly	Ser
							385			390			395		400
Trp	Ala	Asn	Ile	Ala	Arg	Leu	Gly	Glu	Asp	Gln	Ser	Gln	Trp	Val	Val

405	410	415
Leu Gly Gln Pro Leu Ala Glu Ala Ala Lys Val Thr Leu Asn His Lys		
420	425	430
Ala Pro Val Ala Ala Leu Ile Met Leu Gly Met Ile Val Thr Met Met		
435	440	445
Phe Asp Phe Ile Pro Val Ala Pro Val Thr Ala Val Ile Ile Ala Ala		
450	455	460
Leu Leu Met Val Leu Thr Gly Cys Phe Arg Asn Val Glu Glu Ala Tyr		
465	470	475
Lys Thr Ile Asn Trp Glu Ser Ile Val Leu Ile Ala Gly Met Leu Pro		
485	490	495
Met Ser Leu Ala Leu Glu Lys Thr Gly Ala Ser Glu Val Val Ser Gln		
500	505	510
Ser Leu Val Asn Gly Leu Gly Ala Tyr Gly Pro Phe Ala Leu Leu Ala		
515	520	525
Gly Ile Tyr Phe Thr Thr Ser Leu Met Thr Met Phe Ile Ser Asn Thr		
530	535	540
Ala Thr Ala Val Leu Leu Ala Pro Ile Ala Leu His Ser Ala Val Gln		
545	550	555
Leu Gly Leu Ser Pro Tyr Pro Phe Leu Phe Ala Val Thr Val Ala Ala		
565	570	575
Ser Met Cys Phe Ala Ser Pro Phe Ser Thr Pro Pro Asn Ala Leu Val		
580	585	590
Met Pro Ala Gly Arg Tyr Thr Phe Met Asp Tyr Val Lys Val Gly Leu		
595	600	605
Pro Leu Gln Ile Ile Met Gly Val Val Met Val Phe Val Leu Pro Leu		
610	615	620
Leu Phe Pro Phe		
625		

&lt;210&gt; 7014

&lt;211&gt; 355

&lt;212&gt; PRT

&lt;213&gt; B.fragilis

&lt;400&gt; 7014

Gln Lys Gly Leu Lys Asn Ile Glu Thr Met Lys Lys Glu Asn Asp Glu			
1	5	10	15
Ile Thr Asp Leu Phe Arg Ser Arg Leu Gly Asn Ala Glu Met Thr Val			
20	25	30	
Arg Asp Gly Phe Trp Glu Glu Leu Asn Ser Glu Met Met Val Arg Ser			
35	40	45	
His His Arg Lys Val Val Phe Phe Arg Val Ala Ala Ala Ser Val			
50	55	60	
Leu Leu Val Leu Ala Ala Ser Ser Ala Ala Phe Trp Phe Phe Ser Pro			
65	70	75	80
Lys Ala Glu Ile Glu Ala Phe Thr Gln Val Ala Val Val Ser Gly			
85	90	95	
Asn Thr Thr His Leu Asp Gly Asp Val Val Lys Gln Asp Phe Thr Pro			
100	105	110	
Met Arg Ser Glu Pro Val Leu Gly Lys Pro Ala Pro Lys Arg Ser Gly			
115	120	125	
Val Leu Ala Gln Ser Ser Gly Glu Glu Asp Asp Ser Val Ser Val Thr			
130	135	140	
Val Ser Met Ser Phe Ser Phe Ser Ser Thr Thr Arg Arg Arg Gln			
145	150	155	160
Asn Asn His Pro Asp Lys Ser Tyr Trp Gln Ala Gly Gly Glu Gly Gly			
165	170	175	
Ala Leu Ala Ser Ser Ala Asp Gly Pro Arg Pro Asp Asp His Thr Val			

180	185	190
Val Ala Asp Lys Ser Arg Thr Trp Ala Val Lys Ala Ala Val Gly Thr		
195	200	205
Ala Leu Pro Ala Ala Asn Gly Lys Tyr Lys Met Pro Val Thr Ala Gly		
210	215	220
Leu Thr Val Glu Lys Lys Ile Asn Lys His Leu Ala Val Glu Thr Gly		
225	230	235
Leu Leu Tyr Ser Asn Leu Arg Ala Glu Gln Asn Leu His Tyr Leu Gly		
245	250	255
Ile Pro Val Lys Leu Asn Met Thr Leu Ala Glu Thr Pro Lys Phe Asp		
260	265	270
Leu Tyr Ala Ser Val Gly Gly Val Ala Asp Lys Cys Ile Ala Gly Ala		
275	280	285
Pro Asp Asn Ser Phe Lys Asn Glu Pro Val Gln Leu Ala Leu Thr Ala		
290	295	300
Gly Val Gly Met Asn Tyr Lys Asn Asn Asp Lys Leu Ala Leu Phe Ala		
305	310	315
Glu Pro Gly Val Thr His His Phe Lys Thr Asn Ser Lys Leu Glu Thr		
325	330	335
Val Arg Ser Ala Lys Pro Thr Asn Phe Asn Leu Asp Cys Gly Leu Arg		
340	345	350
Met Thr Tyr		
355		

<210> 7015  
<211> 345  
<212> PRT  
<213> B.fragilis

<400> 7015		
Cys Arg Gln Ser Arg His Ala Met Met Lys Arg His Asn Ile Leu		
1	5	10
Thr Val Leu Ala Val Leu Leu Leu Thr Phe Ala Ala Cys Asp Lys Asn		
20	25	30
Ser Ala Pro Gly Phe Ser Phe Thr Thr Asp Ser Ile Leu Thr Leu Thr		
35	40	45
Phe Asp Lys Glu Leu Asp Ala Ala Phe Val Gly Val Gly Thr Gln Asn		
50	55	60
Tyr Asn Pro Val Gly Met Arg Arg Ser Gly Asp Thr Leu Phe Ile Ala		
65	70	75
Asn Arg Ala Glu Gly Ser Asp Gly Val Trp Val Val Arg Ala Ser Thr		
85	90	95
Gly Glu Leu Leu Tyr Ser Leu Thr Gly Trp Thr Tyr Asn Gly Lys Asn		
100	105	110
Glu Lys Phe Asp Asn Gln Val Met Asp Val Ala Val Ser Ser Asp Tyr		
115	120	125
Ile Phe Val Val Asn Arg Ser Ser Arg Ile Asp Leu Phe Arg Arg Asn		
130	135	140
Asp Tyr Ser Tyr Val Thr Thr Ile Gly Arg Thr Gly Trp Gln Ser Ser		
145	150	155
Ser Leu Leu Gln Cys Glu Ala Ala Glu Val Ala Gly Asp Lys Leu Phe		
165	170	175
Ile Arg Asp Lys Gln Lys Ile Lys Val Val Gln Ile Ser Asp Cys Thr		
180	185	190
Pro Glu Asn Arg Phe Lys Val Pro Val Phe Ala Gln Asn Thr Asp Ser		
195	200	205
Thr Ser Ser Asn Asn Gly Phe Asn Leu Glu Ser Val Ala Arg His Glu		
210	215	220
Gly Leu Ile Tyr Val Ser Asp Tyr Glu Thr Ser Arg Ile Leu Val Ile		